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ABSTRACT

In 1977, Saint Mary's Junior College initiated a project to determine the feasibility of educating and placing blind persons as occupational therapy assistants and physical therapy assistants. Faculty and project staff worked together to develop tactile models and diagrams, enriched verbal descriptions, and supplementary audiotapes to be added to usual classroom instruction. Adaptations were also made in testing services, reader services, peer tutoring, and classroom demonstrations, and special equipment was purchased. By March 1981, 31 blind students had been served or were currently enrolled in the programs. Four of the visually impaired students were employed as certified occupational therapy assistants and four as physical therapy assistants. The project report details the specific project objectives, the methods and procedures used to achieve these goals, the content and adaptations made to the physical therapy assistant and occupational therapy assistant programs, and the design and implementation of the project impact evaluation system. The bulk of the report is composed of supporting appendices, focusing on: (1) publicity; (2) the project's advisory committee; (3) special evaluation forms and instruments for blind students; (4) information specific to the two therapy assistant programs; (5) newly developed equipment; (6) the impact evaluation; (7) cumulative records; (8) project staff; and (9) project trainees. (AYC)

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FINAL PROJECT REPORT

"Experimental Training and Placement of Blind Persons in Two-Year Allied Health Fields"

(1977-1980)

Rehabilitation Services Administration, Experimental and
Innovative Training, Grant # RSA-44-P-81216/ 5-04

ST. MARY'S JUNIOR COLLEGE
Minneapolis, Minnesota

March 10, 1981

JC 810 502

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CONTENT

I. Introduction

II. The Setting

III. The Experimental Project - An Overview

IV. Project Purpose and Specific Objectives

V. Methodology

VI. Content of the Physical Therapist Assistant Program

VII. Content of the Occupational Therapy Assistant Program

VIII. Project Evaluation

APPENDICES

A. Publicity
B. Advisory Committees
Special Evaluation
    1. Common Evaluation Forms
    2. Specific Skills Evaluations
    3. Orientation and Mobility Test for Occupational Therapy Assistant and Physical Therapist Assistant Candidates
    4. Specific Orientation Tests
    5. Pre-Selection Tests for Manual Dexterity, Proprioception and Stereognosis
    6. Evaluation Report on Orientation and Mobility Assessment
D. Physical Therapist Assistant Program
    1. Program Director's Report
    2. Sophomore Course Outline and Ambulation Training
    3. Equipment and Modifications
E. Occupational Therapy Assistant Program
    1. Program Faculty Reports
    2. Sophomore Course Outline and VIS Learning Experiences
F. New Equipment Developed
G. Impact Evaluation
    1. Instruments
    2. Data Summaries
    3. Papers
H. Cumulative Record
I. Project Staff
J. Project Trainees

I. INTRODUCTION

In 1971, representatives from Rehabilitation Services Administration (RSA) the American Foundation for the Blind (AFB) and the Bureau of Health Manpower met to discuss potential career opportunities for blind persons in the allied health fields. The representatives agreed that the initial exploration should be taken further, and they then organized a workshop for this purpose. Held in the fall of 1972, the workshop brought the representatives together with the deans and directors of allied health programs.

A project planning committee, which included Sr. Anne Joachim Moore, President of St. Mary's Junior College, (SMJC), was formed at the workshop. The committee drafted project objectives and proposed a number of project sites, of which SMJC was one. AFB investigated the proposed sites, and in 1974, asked SMJC to become the pilot site. In 1976, SMJC staff wrote the project proposal in collaboration with AFB staff and Region V contact persons. The proposal incorporated the earlier work of the project planning committee.

In 1977, SMJC was awarded a three-year project grant in RSA's "Experimental and Innovative Training" category, entitled "Experimental Training and Placement of Blind Persons in Two-Year Allied Health Fields." The primary purpose of the project was to determine whether or not it was feasible to educate and place blind persons at the assistant level in the fields of Occupational Therapy (OT) and Physical Therapy (PT).

II. THE SETTING

St. Mary's Junior College (SMJC) was established in 1964 as the first two-year college in the country with the single mission of preparing technical level practitioners in allied health. The overall purpose of the College is to offer quality technical education in health and health-related fields in a two-year college setting. The College offers the following programs: Nursing; Occupational Therapy Assistant, Physical Therapist Assistant; Respiratory Therapist; Medical Record Technician; Medical Laboratory Technician; Chemical Dependency Family Treatment; and Special Education Associate. In 1972 and 1980 the College received full accreditation by the North Central Association of Colleges and Secondary Schools. During its first decade, SMJC became known as a highly innovative institution, exploring new approaches in curriculum and instruction and in student personnel services. The College is also known in junior and community college and allied health education circles for its pioneer work in the use of multisensory tutorial instruction. SMJC now enrolls approximately 800 students who form a fairly heterogeneous student body. Over the years, special attention has been given to atypical students (e.g. minority students, older students, students engaged in special physical or psychosocial rehabilitation efforts) who are seeking careers in health fields.

III. THE EXPERIMENTAL PROJECT - AN OVERVIEW

Six blind students were introduced into the College millieu under project auspices in Fall of 1977. They had been recruited from Region V, and had undergone a selection process devised by project staff, consultants and faculty. As the students progressed, alternative instructional strategies were employed as necessary. The instructional adaptations required for the totally blind students differed from those

* VI = Visually Impaired
* VIS = Visually Impaired Student(s)

required for the partially sighted students. Faculty and project staff worked closely together to first identify the need for, and then to make the required adaptations. Tactile models and diagrams, enriched verbal descriptions, and supplementary audiotapes were added to the usual classroom instruction. A centralized testing service was established in the student learning center, and reader services and peer tutoring were made available through the regular student service channels. In clinical courses, the faculty used blind students to demonstrate skills and procedures, thereby instructing them at the same time as the sighted students. As required, special adaptations of clinical equipment were obtained or fabricated. Brailled sphygmomanometers and thermometers were purchased. A talking meter reader which can be attached to and can read the gauges and dials on a number of therapeutic devices was tested and further improved. An erythemometer, a device used to measure the redness of the skin was designed and developed. Once the blind students were ready for clinical learning experiences, the Project Coordinator oriented clinical personnel to blindness and oriented the blind students to the sites. He also made necessary equipment and other environmental adaptations at the clinical sites.

Within the College, blind students are now accepted as typical students. Faculty and staff, once doubtful, now believe that success is possible. Sighted students quickly adjust to the presence of the visually impaired students and reach out to them in helpful ways. Clinicians and clinical supervisors, also incredulous at first, now welcome blind students, and in a number of cases, have sought them out for employment upon graduation. Blind students are positive about their experiences at the college and they are highly motivated to complete the programs.

Outside of the College, the project has generated a considerable amount of local and national support. Local leaders in the field of blind rehabilitation have facilitated the College's development of educational resources, and then have been available "on call" for consultation and advice. National leaders in the fields of Occupational Therapy and Physical Therapy encourage the effort. This support is demonstrated by the fact that a report on the project will be made at the 1981 meeting of the American Physical Therapy Association. Regular reports on the project have been sought along the way by the Council on Allied Health Evaluation Accreditation (CAHEA) of the American Medical Association. CAHEA is especially interested in what has been learned about selection criteria. Inquiries about the project are increasing. To date, 18 state rehabilitation agencies have requested information.

As of this writing, 31 blind students have been served by the project. Of that total, four students graduated in May, 1979, and four more in May, 1980, 12 withdrew from the College, and 11 are currently enrolled. One of the partially sighted students who withdrew from the Physical Therapy Program was admitted to the Medical Records Technician program and will graduate in April, 1981.

Four of the visually impaired graduates are now Certified Occupational Therapy Assistants (COTA's). Three of these COTAs found employment immediately upon graduation. The fourth COTA relocated to an area of the country where the OTA level worker is not well recognized and consequently has not located employment. One totally blind COTA is working with cardiac patients in a northern Minnesota hospital. Two partially sighted COTA's chose to work with older patients in long-term care facilities in Minnesota and Wisconsin.

An additional four visually impaired graduates are now Physical Therapist Assistants (PTA's) who are employed in hospitals and long-term care facilities. One of the totally blind PTA graduates was accepted for admission in Fall, 1981 to the four year Physical Therapy program at the State University of New York (SUNY) in Buffalo, New York.

The conclusion of faculty, College Administrators, project staff, clinicians, blind students, employers, and advisory committee members is that it is feasible to educate and place blind persons in the allied health fields of OT and PT at the two-year assistant level.

The following sections of this report detail the specific project objectives, the methods and procedures used to achieve project objectives, the content and adaptations of the Physical Therapist Assistant (PTA) program and the Occupational Therapy Assistant (OTA) program, and the design and implementation of the project impact evaluation system. Supporting appendices will be noted in the narrative as appropriate.

IV. PROJECT PURPOSE AND SPECIFIC OBJECTIVES

Project Purpose

The overall purpose of the project was to demonstrate and evaluate the feasibility of training blind persons in the two-year technical level allied health programs in Occupational Therapy (OT) and Physical Therapy (PT). The major objectives of the project were:

1) to determine in what ways the established allied health curricula and the related materials and equipment needed to be adapted;
2) to demonstrate that blind persons can be trained in regular, established, but appropriately adapted, allied health curricula;
3) to demonstrate what has to be done to assist visually impaired students in securing employment in the area of allied health; and
4) to establish the ongoing processes needed to continue to train blind persons in allied health fields in this institution and others that may want to use such processes as models.

V. METHODOLOGY

Objective #1: To determine in what ways established allied health curricula and the related materials and equipment needed to be adapted.

Since the Project Coordinator had considerable prior experience in the analysis of job tasks and the restoration or modification of these tasks to bring them within the performance capabilities of blind individuals, the first step involved meetings between the Project Coordinator and each of the two program faculties. The purpose of these meetings was to provide the Project Coordinator with a comprehensive overview of the two curriculums, and acquaint the faculty with the purposes of the project. As a result of the meetings, the Coordinator was able to suggest some initial adaptations in teaching methods, instructional materials, and equipment.

Some subsequent modifications were made in these areas based on this initial curricular analysis. As the visually impaired students enrolled at SMJC and started experiencing the curriculum, additional adjustments were made to accomodate the visually impaired students. Some of these adjustments were generated from informal comments made by the faculty and students as they interacted with each other in the instructional setting. (See pages 9-12 and 14-17 for adaptations).

Other more formalized procedures were also developed to generate ideas for needed adaptations. These included the formation of a National Advisory Committee an Internal Faculty Advisory Committee and a student advisory group (See Appendix B). In addition, data was obtained from an Impact Analysis of the Project, instructional records of successful adaptations for each project student, called the Cumulative Record System (See Appendices G and H) and testing and taping services.

A. Testing and Taping Services

These services were developed so that special needs of the blind students could be accommodated without placing a hardship on the faculty.

Since many of the instructors have large numbers of visually impaired students in their class(es), the project staff felt that it would be too time consuming for instructors to test the students on an individual basis. Therefore, a testing center was established in the College audiovisual center reserved for VIS. Learning cubicles that were already in the AV center were supplied with tape recorders and portable typewriters. Thus, VIS arranged their tests with the Project Assistant who administered the tests in the Testing Center.

A taping system was created by the Project Coordinator at the start of the project to ensure a smooth flow of taped materials to the visually impaired students. The intent of the system was to relieve the students of the pressure of obtaining textbooks and also to relieve faculty of the burden of having each student contacting them regarding required books. This system did not work well. The tapes were not lways available soon enough from the MN State Services to meet the needs of the VIS. Tapes were lost and students often complained about the quality of the tapes.

The taping system was drastically revised last spring due to everyone's dissatisfaction with the old system, and the Visually Impaired Students' desire to assume more responsibility in securing their own books. VIS are now given a book list, which contains the titles of all the required textbooks and where they can be obtained in taped form at the start of each quarter. The students utilize the list to order their required textbooks from the source of their choice. Each student was also urged to recruit readers and instructors were counseled to reject the unavailability of tapes as a VI student excuse for not completing assignments. The new taping system has greatly alleviated the dissatisfaction problem.

B. Institutional Impact Analysis

In addition to establishing advisory committees, the project staff designed and implemented an institutional impact analysis.

For the project to grow and prosper, it was essential that thoughts, needs and opinions of major groups affected by the project be harmonized. Therefore, a consultant was hired to study the project and design a model for an institutional impact analysis.

B. Institutional Impact Analysis (continued)

Two interconnecting methods to examine impact were developed. The first method involved the study of relationships among key social identities involved with the project. The relationships were studied in terms of the points of conflict and confusion and then in terms of areas of consensus and satisfaction. The second method involved the study of critical points within the project itself. Critical points in the social flow of events within the project were identified and were constantly monitored. The evaluative tools used by both methods involve questionnaires, personal interviews and group interviews.

As the impact analysis developed it helped to integrate key social identities involved with the project and prevented crisis management (See Appendix G3 for the consultant's report, a sample of questionnaires, and data summaries.)

These systematized mechanisms helped us to build an organized body of knowledge about the needed adaptations. As the project continues (new RSA award through 1985) these mechanisms will continue to provide us with information concerning needed adaptations.

In summary, the methods for determining the required curricular adaptations evolved from the initial suggestions of the Project Coordinator to the development and implementation of more formalized systems.

Objective #2: To demonstrate that blind persons can be trained in regular, established but appropriately adapted allied health curricula.

To achieve this objective, it was apparent that the first major task would be the recruitment of visually impaired students. Therefore, we established some immediate recruitment, selection, and evaluation procedures. (See Appendix C)

A. Recruitment

Initially, the project had a regional recruitment focus. Thus the Project Coordinator developed a recruitment plan in which all of the state agencies in Region V were contacted several times by phone and letter to provide them with information about the project which we hoped they would pass on to their clients. During the critical first year, the Coordinator received tremendous support in the recruitment effort from the counselors of Minnesota State Services for the Blind as well as numerous inquiries from rehabilitation counselors and visually impaired persons. As the project progressed, recruitment was expanded to a national level. Informational packets about the project were then sent to all of the state agencies and private rehabilitation agencies in the United States. This approach attracted enough visually impaired applicants to provide a pool of appropriate applicants. Although most of the visually impaired applicants were from Minnesota, the project did attract candidates from New York, New Jersey, Wisconsin, New Hampshire, South Dakota and Texas.

B. Selection Criteria

As well as recruiting visually impaired applicants, we had to develop procedures to determine how their program choice "fit" with their abilities. Thus, selection criteria and a plan to evaluate the candidates' abilities based on these criteria were developed.

The selection criteria were developed from recommendations made by the American Foundation for the Blind and the Directors of SMJC's Occupational Therapy Assistant and Physical Therapist Assistant programs. The criteria were based on abilities that any applicant, whether sighted or blind, would need to possess in order to successfully complete these two programs. (See Appendix C for criteria and evaluation instruments). Over the three-year project period, these selection criteria were modified by project staff and program faculty slightly. Additional emphasis was placed on orientation and mobility skills with the addition of the applicant's level of acceptance of their disability and ability to accept constructive criticism. Due to the requirements of Section 504 of the Rehabilitation Act, our selection criteria in the near future will be directly aligned to the technical performance standards developed for admission to each SMJC program.

The evaluation procedures were developed through the Project Coordinator's discussions with the faculties of the OTA and PTA programs. Selection criteria were categorized in five evaluative areas, namely: 1) past academic achievement, 2) communication skills, 3) orientation and mobility skills, 4) performance during an oral interview and 5) specific OT or PT skills. The applicant's record of academic achievement was evaluated by the SMJC admissions office. Communication skills and orientation and mobility skills were evaluated by a vision teacher and an orientation and mobility specialist was hired by SMJC as a consultant. The program specific skills evaluation was handled by each of the two program faculties. A faculty interview was conducted by each program's faculty with the Project Coordinator and the visually impaired applicant. An orientation and evaluation session was conducted each summer for admission the following Fall. (See Appendix C for details).

The qualified visually impaired students who enrolled were provided with the necessary instructional adaptations and services to enable them to complete the program requirements and graduate.

Objective #3: To demonstrate what has to be done to assist visually impaired persons in securing employment in allied health.

We initially thought that placement would be a difficult task. However, this assumption proved false probably due to the excellent reputation of the SMJC project and the prior placement background of the Project Coordinator. Three out of four OTA graduates found employment immediately after graduation. The fourth OTA graduate relocated to an area of the country where the OTA level worker is not well recognized and consequently, has not located employment. Four PTA program graduates are all employed One of these graduates (totally blind) has been accepted into a four-year physical therapy program at the University of New York at Buffalo.

The legally blind (that is, partially sighted) graduates have found their own employment opportunities with little assistance from the Project Coordinator. These students were given information about how to find employment opportunities and how to talk to potential employers. The Coordinator always promised them assistance if they needed it, but this never became necessary.

Once the VI graduates had been hired, the Coordinator helped to modify their work environment and equipment, oriented them to their new work environment and asked appropriate state agencies to purchase the needed modified equipment. The totally blind graduates have required a higher level of assistance with job placements. Usually, the Coordinator helps them contact potential employers and gives them information about how to present themselves to potential employers. PTA and OTA Program Directors and faculty were also involved in placement activities as needed. In one case, the PTA faculty found a position for a Registered Physical Therapist who had lost her vision because of diabetes.

VIS sophomores were also encouraged to seek a summer work experience in their field. All VI students reported that their placements were rewarding.

In addition, Mr. Iltan, a blind physical therapist from Canada, was utilized to aid our placement efforts. He gave two demonstrations of his skills while working with actual patients in two unfamiliar clinical settings, to a large group of clinical practitioners. We asked Mr. Iltan to give these demonstrations because many sighted physical therapists had told us that they had a difficult time visualizing how a blind person could be a competent physical therapist. Mr. Iltan has had a very favorable and lasting impact on clinical practitioners . One of his demonstrations was videotaped so that we can utilize it whenever feasible. We feel that the demonstration and the continuous use of the tape will greatly enhance opportunities for employment (See Appendix A for an article describing the demonstration).

This high level of involvement with the placement of totally blind graduates may not always be necessary. These first placements were viewed as critical to the overall and continuing success of the Project. However, in the future, it may be possible to turn more of these responsibilities over to the rehabilitation agency counselors since placement in the allied health occupations is very similar in process to the placement of VIS in other occupations.

Objective #4: To establish the ongoing processes needed to continue to train blind persons in allied health fields.

Some of these ongoing processes such as the evaluative feedback mechanisms, the selection and evaluation processes and the recruitment and placement processes have already been discussed. Based on data gained from the feedback mechanisms, the following are some of the improtant ongoing supportive processes that we feel are keys to the continuing success of the VI students.

A. Orientation

At the beginning of each academic year, the Project Coordinator gives each VI student an extensive orientation to SMJC. This includes information about all of the services provided by the College and how to use them. In addition, VIS receive a complete orientation to the physical environment of SMJC. We feel that this orientation reduces the students' time of adjustment and helps prepare them for the start of classes.

Testing and taping are the two primary support services provided for VI students (see previous pages). The testing service efficiently removes the burden of special testing from the faculty while providing the VIS with an adapted testing situation. The taping system removes much of the burden of obtaining taped textbooks from the VIS while allowing them an active role in the process. Other services provided include the production of instructional materials in braille, raised line diagrams and assistance obtaining readers.

B. Clinical Placements

One of the most important program related processes is the arrangement of appropriate clinical sites. Clinical affiliations are an integral part of each of our allied health programs. Students must spend a certain proportion of time in a clinical setting supervised by a clinical supervisor. We would not be able to train VIS in allied health careers without the support of clinical supervisors. Therefore, it was deemed essential to develop good relationships with the clinical supervisors. This was accomplished through Project Coordinator visits to clinical sites (sometimes accompanied by OTA or PTA faculty) to conduct inservice for clinical supervisors and staff. Often these sessions involved explanations of blindness, discussion of how to work with a blind person, etc. These sessions greatly reduced the apprehensions clinical supervisors had about supervising blind students in the clinical setting.

We are working towards integrating the services provided by the Project Coordinator into the permanent service delivery system of SMJC to prepare for the day that we will not have a grant. This integration of services will continue under a new RSA grant award made to the College for the continuation of the project through 1985.

VI. CONTENT OF THE PHYSICAL THERAPIST ASSISTANT PROGRAM

A. Overview of the Program

The Physical Therapist Assistant (PTA) is a skilled technical worker prepared specifically to assist the registered physical therapist in patient treatment, using physical agents such as heat, light and water, as well as massage and exercise. Through prescribed activities, the PTA is able to help patients recover physical function and strength lost through disease, injury, or other causes, and to relieve pain and promote healing.

The PTA program at SMJC is a two-year program (6 quarters) that requires 90 credits for completion of an associate degree. The following paragraphs describe the regular curriculum, clinical experience, equipment usage, and the effectiveness of changes that were made to accommodate blind students. These topics will be subdivided to describe freshmen and sophomore student groups separately because of the differences in each year's curriculum.

B. PTA Curriculum

Half of the credit hours required in the PTA program curriculum are general education courses while the other half of the required credits are technical education courses. Since visually impaired individuals have been successfully completing general education courses for a number of years, we focused our attention on the development of adaptations for the technical education courses.

Freshmen Level: PTA Program

Two of the most fundamental accommodations provided for the VIS in the PTA program were testing and taping services. This support service involved helping VIS obtain the required textbooks for their courses, on audiotapes from the Minnesota State Services for the Blind Communication Center and other taping sources. Efforts in most non-laboratory general education courses were limited to the provision of taping and testing services. The taping service, as it has evolved, now puts more responsibility on the student to arrange for his/her texts to be taped in time for their classes. Taped copies of required texts are available in the college audio-visual Learning Center for VIS to use if they have difficulty obtaining their tapes.

The technical education courses are primarily competency based. This means that most of the coursework involves the performance of activities that are directly related to those performances or tasks that are required on the job. These courses are structured in three parts from the demonstration of a technique, to the practice of that technique, to a mastery performance test. Major modifications made in these courses were the use of sophomore PTA students as tutors and active use of blind students as models when difficult techniques were being demonstrated in front of the classes. Use of sophomore students as tutors gave the blind students additional access to skilled assistance without placing additional time burdens on the faculty or faculty assistants. The use of blind students as models helped VIS to learn the physical therapy techniques in a non-visual manner. The use of these modifications with the addition of extra practice time helped the blind students to perform at satisfactory levels during mastery testing.

Sophomore Level: PTA Program

Organization of the sophomore curriculum is similar to the freshman curriculum, however, the content differs entirely. The freshman curriculum teaches students to treat patients who are in fixed positions, such as, lying on treatment tables. The sophomore curriculum teaches students to concentrate treatment on patients who are engaged in dynamic activities, such as, walking and exercising.

PTA faculty expressed great concern about how to determine those techniques that were needed to teach the content of the sophomore curriculum to blind students. It was obvious that blind PTA's would have to utilize different techniques while working with patients than those employed by sighted PTA's. It was difficult for faculty and the Project Coordinator to visualize how a blind student could control a patient's safety, watch for safety hazards in the environment, teach the techniques to the patient and make corrections in the patient's execution of the techniques while the patient was in dynamic motion.

Therefore, a decision was made to locate a well qualified, totally blind physical therapist in Canada. Mr. Sabri Iltan, a physical therapist and co-clinical supervisor of students in physiotherapy at Victoria Hospital in London, Ontario was invited to come and work with faculty and students and spent two days at St. Mary's in September of 1978. Through demonstration of his techniques to the staff and students, he was able to provide us with a basic methodology from which we could extract creative improvisations and increase our confidence that obstacles could be overcome.

12

Through consistent and creative application of Mr. Iltan's techniques, the peer tutorial system, and the use of blind students as demonstration models, the blind students were able to perform at satisfactory levels in mastery testing.

C. PTA Program: Equipment Modifications

Since physical therapy assistants use a great deal of equipment, several equipment modifications were found to be needed. (See Appendix F for details of equipment modifications).

At the beginning of the project, the Project Coordinator asked the PTA program staff to supply him with a complete list of the equipment used during the Freshman year of the program. He also asked for a demonstration of the pieces of equipment in use so he could observe the operating procedures and uses for the various pieces of equipment. From these demonstrations, it was possible to visualize the modifications needed to allow blind persons to successfully operate the pieces of equipment. A list of equipment modifications was submitted to the PTA program staff for evaluation. After the PTA staff had generally agreed that the equipment modifications would work in principal, it was necessary to find potential suppliers. Some of the modified equipment was obtained from traditional suppliers of equipment for the visually impaired, such as American Foundation for the Blind (AFB) and Science for the Blind (SFB). Other equipment had to be fabricated.

From a review of the existing catalogs published by the American Foundation for the Blind and Science for the Blind Products, we were able to obtain the following equipment:

1. Braille Measuring devices - A variety of braille measuring devices were obtained from the American Foundation for the Blind. To date, the braille measuring devices have been used effectively by the blind students in the PTA program.
2. Braille Sphygmomanometers -- A necessary part of tilt table procedures is examining the patient's blood pressure. Since our totally blind students were unable to read a standard sphygmomanometer, it was necessary to purchase a braille version from the American Foundation for the Blind. Unfortunately, the blind students had a great deal of difficulty in reading the scale accurately and the unit was not designed to take the amount of use that this program requires. Therefore, we are searching for a supplier who can furnish us with a braille sphygmomanometer that has a better-designed or larger reading surface and that has a protective cover, similar to a braille watch, to protect the needle. We have recently discovered that SFB products is producing a talking sphygmomanometer and plan to field test their model.
3. Braille timing devices - Braille timers and stop watches were purchased from the AFB because time is essential to administering several of the PTA treatments. To date, the braille timing devices have been used effectively.

   However, these devices hinder the efficiency of VI therapists due to their limited number of performance functions, accuracy and ease of use. One student complained that she was unable to take her patient's pulse using a braille timing device. Another student complained that it was impossible for him to efficiently carry and utilize all of the braille timing devices as he moves around the clinic. Therefore, we decided to replace these timers with an electronic timer. Our first electronic timer was primarily built to assist the VIS to take pulse. The timer, which can be set for 15, 30, 45 or 60 second time intervals, emits a beep very accurately at the end of each set time interval. We were fabricating a programmable timer which could be set for any useable interval of time. However, while working on this timer, we discovered that Sharp Electronics produced a talking programmable timer called "Talking Time". We have purchased this product and have been very impressed with it's performance.

4. Braille Thermometer - It was necessary to obtain thermometers that visually impaired students could use because temperature is an element in many of the treatments used by the physical therapist assistant. Also, recording patients' temperature is a duty that some PTAs have to perform. We ordered both laboratory and clinical Aud-A-Mometers from Science for the Blind Products.

   The blind students have been able to use these thermometers effectively. However, there have been frequent complaints about inaccuracy. Therefore, we tested a new AFB talking thermometer and were impressed by the demonstrated performance. We plan to replace our braille thermometers with talking models. They can be used much more efficiently because they require less hand usage and can be utilized for a larger temperature range. To date, we have been unable to purchase any units due to distribution problems.
5. Labeling Devices - Many pieces of equipment used in the PTA program have dials that have to be marked in braille in order to be used effectively by blind students. To date, Labelon tape purchased from the AFB has been used effectively for this purpose. We also purchased Dymo braille tapewriter so that staff could produce braille markings without relying on the blind students.
6. Light probes - Some of the diathermy machines have lights that turn on when the machines are ready for use. A totally blind individual needs a light probe to detect the presence of light. Light probes were purchased from various sources and evaluated to determine which type served our needs most efficiently. We believe the model available from the AFB best serves our needs because it is light weight, compact and demonstrates a high degree of discrimination in sensing lighting variances.
7. Additional modifications for the sophomore PTA students were the placement of braille markings on weights and goniometers.

Two important devices were not obtained through the regular suppliers of equipment for the blind:

1. Talking meter reader - Diathermy machines are an essential element of any physical therapy program. The majority of these machines are tuned through the observation of a visual needle movement. This type of operation obviously presented a problem for blind operators. The first step in resolving this particular problem was to contact the Royal National Institution for the Blind's School of Physiotherapy to find out how they resolved the problem. After reviewing their equipment descriptions, the PTA program staff felt that the equipment would not measure up to PTA standards in the United States.

After consultation with engineers, and explorations for vendors, we hired an electrical engineer to design the specifications for a talking meter reader that could be plugged into the diathermy machines in the PTA clinical settings.

Thus, each clinical site is asked whether a qualified electrical technician can install an electrical plug in their diathermy machines so that VIS can "read" the meters during clinical placements. To date, PTA clinical sites have been very cooperative and have allowed the plug to be installed.

However, our evaluation of the first model of the talking meter reader indicated that features such as the alarm switches could be eliminated, whereas, features like improved shielding and filtering needed to be added. These changes have been made on the new models which has enhanced the performance of the device.

2. Erythemometer - Early in the project, the PTA program staff identified a serious potential problem. Sighted PTA students determine the effectiveness of the treatments by examining the redness of the patient's treated skin. How would the blind students perform this task? Fortunately, through our research we discovered that the Royal National Institution for the Blind's School of Physiotherapy had already resolved the problem. Through a series of letters to the RNIB School of Physiotherapy, we were able to contact the manufacturer, Electro-Medical Supplies (Greenham, Ltd.,) and obtain an erythemometer. However, the erythemometer obtained from England was not in good working order. The model, along with its operating instructions and electrical schematics, were taken to our engineering consultant. The consultant determined that the device could not be repaired without a great deal of expense and that it was not worth repairing as its performance would never match our standards.

The engineering consultant developed the circuitry and an electrical engineering student built a prototype model of the erythemometer Initial tests with the erythemometer indicated that it would meet our standards. Extensive testing, however, needs to take place before we can come to any conclusions regarding it's overall effectiveness.

D. PTA Program: Clinical Accommodations

There are two clinical experiences during the Freshman year. One toward the end of the Fall quarter consists of half-day exposures to a clinical setting for one week. The primary purpose of this experience is to allow the students an opportunity to get first-hand exposure regarding how physical therapists and physical therapist assistants work in clinical settings. The other experience occurs in the Spring quarter and it consists of half-day exposures to a clinical setting for a period of five weeks. The primary purpose of this experience is to utilize all of the techniques learned in class while working with actual patients.

There are also two major clinical experiences during the Sophomore year. Both the Winter and Spring quarter experiences consist of half-day exposures to a clinical setting for six weeks. The Winter quarter experience allows the students an opportunity to practice the ambulation techniques that have been mastered in class utilizing actual patients. The Spring quarter experience is the final clinical affiliation of the PTA program. During this experience, students practice all techniques learned in class and prepare themselves for eventual employment.

To set up the clinical experiences for the blind students, the Project Coordinator contacted St. Mary's Junior College's clinical affiliates for the PTA program and informed them about the project. All the clinical affiliates expressed a favorable attitude toward the project and we were able to arrange the clinical experiences for the blind students.

The Project Coordinator took each of the students on an exploratory orientation and mobility run to the clinical site and had each student talk to staff prior to the start of the clinical experience. The student's introduction to the clinical staff was necessary to alleviate anxiety and extinguish the staff's misconceptions about blindness prior to the start of the clinical experience. Orientation and mobility training made it possible for each student to get to, from, and around the clinical site independently. Every year the students have shown a greater degree of independence in this process and in efforts to make the clinical staff feel more comfortable working with blind students. One of the totally blind students showed the movie, "What Do You Do When You Meet A Blind Person?"to the staff of her clinical site by herself and then held a discussion about the movie.

Beyond these introductory accommodations, clinical experiences of the blind students have been nearly identical to the sighted students. To date, the clinical supervisors have been extremely cooperative. Clinical supervisors have never refused a request made by the Project Coordinator to place blind students at their site and many have requested the opportunity to work with a blind student.

E. Placement Activity

We have been pleasantly suprised by the acceptance that employers have demonstrated toward our visually impaired graduates. Both of the students who graduated from our first PTA class found immediate employment. Our legally blind graduate accepted employment in a local nursing home and is still currently employed in the same position. Our totally blind graduate decided that she wanted employment of a temporary nature and accepted employment as a Physical Therapist Assistant at a summer camp for handicapped children. However, during the past year she decided to seek permanent employment and was placed at a local hospital through the assistance provided by the Project Coordinator and PTA program faculty.

The VIS who graduated May, 1980 received employment offers. Our legally blind student is working in the Physical Therapy department of a local nursing home. Our totally blind student was offered a permanent PTA position in the physical therapy department she worked in this past summer. However, she rejected the offer and sought acceptance by a registered physical therapist program which she received in December, 1980. She has been accepted by the four-year physical therapy program at the State University of New York (SUNY) in Buffalo, New York. (See Appendix J for a list of project trainees/graduates).

In addition to helping our VIS obtain employment, the Project Coordinator and St. Mary's Junior College PTA faculty helped a registered physical therapist, who was blinded by diabetes, to obtain employment.

There are still many unresolved issues concerning the placement process. Many of these were discussed during the second National Advisory Committee meeting. (See Appendix B). The foremost of these concerns is the involvement of the state agencies for the blind in meeting the expectations of potential employers. Virtually all of the potential employers the Project Coordinator has come in contact with, have the expectation that the state agency will purchase the modified equipment and set up the job site in such a manner to enable the blind employee to perform the necessary job duties. Also, they expect the agencies to intervene with remedial action if the placement is not working. How the state agencies will respond to these expectations has not been resolved. Most of the agency personnel contacted have stated that they would purchase the modified equipment if necessary. However, without the existence of the project, it is quite unclear how the agencies will handle the tasks of setting up the job sites and performing remedial action.

F. Performance Outcomes

To date, blind PTA students have successfully met the established criteria for written tests, mastery skills, testing and clinical experiences, have graduated, and have mastered the test of employability. It is apparent that visually impaired students with the appropriate skills can be successfully trained and employed as Physical Therapist Assistants. At present, the rate of successful outcomes for the visually impaired students is slightly under the rate for sighted students enrolled in the PTA program. However, as our skills and understanding broaden, the rates should reach parity. (See Appendix D for PTA faculty report).

VII. CONTENT OF THE OCCUPATIONAL THERAPY ASSISTANT PROGRAM

A. Overview of the Program

The Occupational Therapy Assistant (OTA) is a skilled technical worker prepared specifically to assist the registered occupational therapist to carry out the treatment goal of helping individuals develop, maintain, or recover skills impaired by disease, injury, or some other cause. The occupational therapy assistant may work with a wide variety of disability groups and a wide variety of problems ranging from teaching the activities of daily living to craft-related activities.

The OTA program at SMJC is a two-year program (6 quarters) requiring 90 credit hours to graduate. Half of the credit hours are general education courses; the other half are in technical education courses. The OTA program is very similar to the PTA program in the sense that they are both competency based. The following paragraphs describe the regular curricula, equipment usage, clinical experiences, and the changes we had to make to accommodate the blind students.

B. OTA Curriculum

Freshmen Level: OTA Program

Our involvement in general education courses was as described in our section on the PTA program. The general education courses required for both programs are quite similar.

The technical education courses required some minor modifications. The OTA program courses are structured around three interlocking parts: lecture, a supervised group laboratory, and an independent laboratory. For the most part, the lecture and supervised group laboratory did not need a great deal of modification.

The supervised group laboratory experiences consist of group oriented exercises such as leading remotivation groups, leading group recreational activities, and party-planning. Most of these activities were performed by the blind students with only minor assistance from classmates, teachers, or the Project Coordinator.

The independent laboratory experiences consist of learning the procedures for setting up and completing various craft projects by observing audiovisual presentations independently. The students contract for grade options in this part of the course. The grade is determined by the number of projects completed, a written test, and a mastery skills test in which the student must demonstrate the ability to teach a craft to a patient. The emphasis is placed on the ability to set up and teach a particular craft or activity, not on the artistic quality of the final craft projects.

At the beginning of the independent laboratory experience, concern was expressed that a totally blind or a visually impaired individual might not be able to complete some of the craft projects the curriculum requires. Therefore, attempts were made to complete required craft projects through the use of creative modifications.

The primary modification of the independent laboratory experience during the first project year was the substitution of sophomore tutors for the Audiovisual materials. As part of this modification, the Project Coordinator worked with the tutors to help them build a supportive and friendly relationship with the blind students that would enable them to instruct the students.

During the second year, the Project Coordinator turned much of the direct supervision of the peer tutors over to the peer tutoring service in the College Student Personnel Office. The peer tutoring service organized and trained sophomore students to work as peer tutors with students having academic difficulty.

The role of the peer tutors decreased during the second project year due to other modifications carried out in the OTA program. One Faculty Assistant was assigned full-time to make accommodations in the OTA program for the VIS. Cupboard doors and shelves were labeled with braille to provide VIS with ready access. Some of the tapes used in the teaching of crafts were brailled for independent use and were retaped to include more verbally descriptive terminology. Some hands-on teaching aids were created to accompany the tapes. The whole freshman OTA class viewed the movie, "What Do You Do When You Meet A Blind Person?" and thus became more sensitive to the needs of their blind classmates.

Another significant change occurred in the relationship between the faculty assistants and the blind students. Freshman OTA faculty include the primary freshman instructor and two faculty assistants. The faculty assistants took a much more active role in the direct teaching of the OTA crafts to the blind students and in assisting the tutors. They also assisted the blind students during slide shows for the whole class by sitting next to the students and providing tactile instructional materials.

These refinements continue to evolve during the third project year when more independent learning tools were created to reduce the amount of tutorial and faculty assistant time needed. The creation of these learning materials and the dependent behavior of the VIS created a tremendous strain on faculty. However, we feel that by using these instructional adaptations, the visually impaired students will eventually be able to complete all of the required craft projects with a minimum amount of tutorial and faculty assistance.

Sophomore Level: OTA Program

Organization of the sophomore curriculum is similar to the freshman curriculum, however, the content is totally different. In the freshman curriculum, students learn primarily to work with older individuals such as nursing home residents and mentally ill patients. In the sophomore curriculum, students learn primarily to work with individuals who have a physical handicap or a developmental disability. Greater emphasis is also placed on learning complex manual skills such as wood working and printing. Minor crafts are deemphasized.

The same modifications that were successfully used in the Freshman curriculum were applied to the sophomore curriculum. These modifications were used quite successfully by the two totally blind students in Fall, 1980.

C. OTA Program: Equipment Modifications

The equipment modifications for the OTA program have been minimal. This program is not as equipment oriented as is the PTA program. However, there was a need to purchase some standard modified equipment which was obtained through the AFB Aids and Devices Catalog and other similar catalogs. Equipment in the following categories was purchased:

1. Recreational - Braille and large print playing cards, audio ball, checker games, and other games.
2. Braille measuring devices - Yardstick, foot rule, six-foot steel tape, Rotomatic rule, and wood marking gauge, sphygmomanometer.
3. Activities of daily living devices - Measuring cups, egg separators, pouring spouts.
4. Material needed to complete crafts - Lettering stencils, needle threaders, self-threading needles, tape measures.
5. Timing devices - Braille timers, Talking Time (clock).

D. OTA Program: Clinical Accommodations

There are two clinical experiences during the freshman year. The first one which occurs in the Fall quarter gives the students a limited exposure to a geriatric setting. The second clinical experience consists of two full day exposures a week throughout the quarter in a psychiatric setting. The primary purpose of this experience is to utilize techniques mastered in class while working with actual psychiatric patients.

There are two major clinical experiences during Winter and Spring quarters of the sophomore curriculum. These experiences consist of full-day exposures, two days a week throughout each quarter. One of these experiences will deal with the physically handicapped patient while the other deals with the developmentally disabled patient.

The OTA clinical orientation and placement activities were similar to the clinical experiences of the PTA program and were handled in much the same manner.

Overall, the OTA and PTA clinical supervisors have remained quite cooperative toward the project. However, the clinical supervisors have also indicated that VIS require more supervised time and that they are concerned about the amount of accommodation to be given to the visually impaired students. They are concerned about the overall competence of the visually impaired graduates and fear that important performance criteria might have been waived. It is apparent that the Project Coordinator will need to devote more time to the clinical supervisors to assure their continuing cooperation on clinical placements.

E. Placement Activity

One of the two legally blind OTA program graduates from the first class located employment and has worked successfully. The other graduate married and restricted herself to a small geographical area where the OTA professional level is not well accepted. Despite efforts by her rehabilitation counselor, it is doubtful that she will locate employment unless she relocates. Both of the totally blind and legally blind graduates from the second class have found employment and are working at the present time. (See Appendix J for a list of Project Trainees/Graduates).

F. Performance Outcomes

To date, three legally blind students and one totally blind student have met the requirements of the OTA program and have graduated. Three of these individuals have found employment.

Despite these outcomes, the OTA program faculty and some of the clinical supervisors have some reservations about the role of blind practitioners in the field of Occupational Therapy. These reservations can only be resolved by providing the opportunity for more visually impaired students to enter Occupational Therapy training.

III. PROJECT EVALUATION

During the three-year project period both formative and summative evaluative activities were conducted by project and college-supported personnel. The Project Director, who is also the Director of the College's Educational Development Office, was responsible for the supervision of the overall evaluation of the project. She was assisted with the evaluation activities by a College-supported Research Associate who developed instruments, collected and analyzed data and prepared data summaries and reports.

The primary evaluative method used was goal-based-that is, data was collected to determine the extent to which project objectives had been achieved. Thus, the previous narrative sections of this final project report speak to the outcomes that serve as indicators of the extent to which the project's goals have been met.

In addition, formative evaluation activity was carried out continuously by project staff, faculty, peer tutors, and visually impaired students who evaluated project strategies, curriculum modifications, and equipment modifications. The project strategies and adaptations that were retained were determined in large part by VI student indications that they were effective and ultimately, by VI student's success under the modified conditions.

Impact Evaluation

During the second project year the College administration determined that, for the project's growth, it was essential that the thoughts, needs and opinions of the major groups affected by the project be harmonized. Thus, a consultant was hired to study the project and design an institutional impact analysis.

Two interconnecting methods to examine impact were developed. One approach involved the study of relationships among key social identities involved with the project. The relationships were studied in terms of the points of conflict and confusion and then the areas of consensus and satisfaction. The second approach involved the study of critical points within the project itself. These critical points were those structures in the social flow of events within the project at which we anticipated the VI students would impact the college. Thus, this is an anticipatory model that seeks to identify potential problem areas prior to the introduction of VIS into the college environment.

The critical points diagram then (See Appendix G) illustrates the critical points of project impact that were periodically monitored during the project period to discover present and potential problem areas.

Data Collection

Questionnaires were developed and administered during 1978-79 and 1979-80 to all visually impaired students, their teachers and peer tutors. Interviews were conducted with the Project Director, the Project Coordinator, the Project Assistant, support personnel and two groups of visually impaired students (freshmen and sophomores).

Analysis

Initially, the questionnaires (for faculty, VIS and peer tutors) yielded valuable information about the impact of the project which was further validated by interviews. Thus administrators were provided with baseline documentation regarding the impact of the project on the College. The questionnaires were revised quarterly using the interview data. Eventually, the questionnaires did not generate an accurate picture of what was really happening within the project. The questionnaire data did not reveal many problem areas when in reality, there were problems among the groups impacted by the project as well as with the project support services.

We believe that the effectiveness of the questionnaires as evaluative tools was reduced as the project evolved and the processes and services developed were integrated into regular established college systems. In addition, the questionnaire data revealed that with time, the initial impact of enrolling VIS at St. Mary's Junior College "wore off" as the College community became more accustomed to working with visually impaired students. Faculty opinions about teaching visually impaired students changed from skeptical/defensive to accepting/cooperative. As faculty experience in teaching VIS increased, the initial uncertainty and resistance was reduced. Faculty began to discover that the instructional adaptations used for the VIS in their classrooms and laboratories had the secondary effect of also improving the instruction for the sighted students in their class. Sighted students demonstrated increased interest in the content being presented and expressed a desire to use the instructional adaptations VIS used. Both sighted and VI students benefited from the instructional modifications developed. Sighted students also became accustomed to the presence of VI students in their classes and in the College environment (including the dormitory).

Thus, as the initial impact of VIS on SMJC wore off, a second level impact evaluation strategy had to be evolved. This strategy began with interviews designed to provide information to validate or revise the critical points impact model. It was discovered from the interview data that all the individuals and groups being monitored (faculty, VIS, peer tutors, Director of Support Services, etc.) were now operating at the hypothesized second level of impact. This development effected the VIS as a group and the overall Project direction as a whole. During Yr. II, the questionnaire and interview data revealed that VI students as a group were becoming more assertive in asking for what they wanted and constructively criticizing those project processes and services that they believed needed to be changed. Faculty who had previously indicated they had specific instructional problems with VIS in their classrooms, now pointed out that they treated the VIS in their classrooms the same as their sighted students. The VI students themselves asked to be treated in the same way as the sighted students in their classrooms and laboratories. Thus, except for instructional adaptations, developed through the project, VIS functioned in classrooms and laboratories as independently as possible.

Support services developed during the project were integrated into the existing College systems. The testing service is located in a portion of the College audiovisual center and textbook materials are available on tape from this Center. As the Project proceeds under five additional years of funding from RSA, the project support services and processes will continue to be refined. The impact evaluation will also continue.

APPENDIX A

PUBLICITY

The following are examples of publicity and articles about the project that have been published and distributed.

Information Sheet -- RSA Blind Project

This information sheet was distributed to over 200 individuals who requested information. It outlines the major purpose of the project, the overall plan, and the guidelines for the selection of participants.

Information Sheet
on
Project Titled:

"Training and Placement of Blind Persons in Selected Two-Year Allied Health Programs"

St. Mary's Junior College
Minneapolis - Minnesota
55454

1. What are the purpose and major objectives of the project?

Overall purpose of project: To demonstrate and evaluate the feasibility of training blind persons in the two-year technical level allied health programs in occupational therapy (OT), physical therapy (PT), and two other selected fields.

Major objectives of the project:

a. To determine in what ways four established allied health curricula and the related materials and equipment need to be adapted to train blind persons for careers in the area of allied health.

b. To demonstrate that blind persons can be trained in regular established, but appropriately adapted, allied health curricula and to demonstrate what has to be done to assist these persons in securing employment in the area of allied health.

c. To establish the ongoing processes needed to continue to train blind persons in allied health fields in this institution and others that may want to use such processes as models.

2. What is the overall plan of the project?

This project is designed in terms of four phases: a pre-project phase and three major project phases, each corresponding to a calendar year of the project.

During the pre-project phase, emphasis will be on performing a task analysis of the OT and PT programs and roles, preparing for the selection of students, and obtaining a project coordinator. In the first year (Phase I) of the project, three blind persons will enter the OT assistantship program and three blind persons will enter the PT assistantship program at St. Mary's Junior College in September 1977. During the second year (Phase II), six more blind persons will enter allied health programs at St. Mary's Junior College in September 1978, three in one allied health area and three in another -- both fields other than OT and PT. These additional two programs will be determined during 1977-78, contingent upon progress of the blind students in the first two areas of allied health, namely OT and PT. At the end of the second year, the first group of six blind persons would graduate from OT and PT. At the end of the third year, the second group of six blind persons would graduate from their respective programs.

3. Who will participate in the project?

The project has a Region V focus involving these states: Illinois, Minnesota, Ohio, Wisconsin, Michigan, Indiana. State agencies serving the blind in these states are encouraged to refer interested, qualified applicants to St. Mary's Junior College. Preference will be given to qualified applicants from these states; however, persons from other states will also be considered.

4. What admission requirements are there?

   a. Students will be reviewed according to the College's standard admission requirements, which are as follows:

      (1) General requirements

         (a) Graduation from an accredited high school with rank in the upper half of the graduating class. Adult equivalency certificate (GED) is accepted.

         (b) Good health confirmed by physician's examination.

      (2) Application procedure

      The following records must be sent to the Director of Admissions at St. Mary's Junior College:

         (a) An official transcript of high school credits with rank and number in graduating class. A transcript of college credits if the applicant has attended another college.

         (b) Two recommendations, usually from counselor (high school or agency) and teacher.

         (c) Completed application form.

         (d) Application fee of $15.00 (non-refundable).

   b. Other important criteria that have been identified with the assistance of the American Foundation for the Blind and our own program directors are listed below.

   Selection criteria encompass the areas of mental ability, mobility, independent living, communication skill, interest, and motivation.

   -- Perceives multiple stimuli: for rapid mobility and coordination.

   -- Object perception and spatial localization: to evaluate the performance of patients and make appropriate modifications and corrections (for example, ability to perceive patient positions, participate in gait training, etc.).

   -- Retains information: good memory, for remembering orders, etc.

-- Communication skill: braille, typewriter -- for progress notes on patients.

-- Able to grasp ideas and methods rapidly.

-- Good manual coordination to facilitate learning of manual skills (for example, use of gauges and dials, use of hand tools, use of treatment equipment and supplies).

-- Relates well to counselors, instructors, peers: general emotional stability.

-- Has excellent travel and mobility skills to avoid undue use of time for these purposes.

-- Is physically in good health or has health problems well controlled. Physical examination: not only diagnosis, but also prognosis of visual handicap.

-- Hearing ability.

A preliminary evaluation of the candidates related to these special criteria should be provided by the agency referring the student. St. Mary's Junior College will, of course, have the final decision about acceptance of students. These criteria should not be used in a rigid way but rather as a guide in dealing with each blind person as an individual.

5. How can interested applicants be referred?

   a. Individuals who seem to be potential candidates for this project, given the above criteria should immediately be referred to the Admissions Office at St. Mary's Junior College, (612) 332-5521, ext. 213.

   b. At that time all necessary application forms should be requested from the Admissions Office. They will be sent to the individual or his/her counselor, whoever is specified.

   c. Upon completion and evaluation of the application materials, candidates meeting the criteria will be interviewed by the Director of Admissions, the program director, and the project coordinator.

   d. Applications will be accumulated until June 30, 1977, with tentative decisions made about candidates. At that time three students will be selected for each program, OTA and PTA, for enrollment in St. Mary's Junior College, September 1977.

6. How can one find out more information about the College, the project, or the specific programs involved?

a. General information about the College, admission, overall requirements for graduation, etc.:

Sister Kathryn Ross, Director of Admissions, ext. 213

b. Specific information about the Occupational Therapy Assistant Program:

Mrs. Pat Babcock, Director, OTA Program, ext. 251

c. Specific information about the Physical Therapist Assistant Program:

Miss Barbara Baum, Director, PTA Program, ext. 366

d. Information about the special demonstration project itself:

Mr. James Sevdy, Coordinator, ext. 375
Dr. Carol Peterson, Vice President, Educational Development, Evaluation, and Research, ext. 361 or 362

Note: This special project is funded by Rehabilitation Services Administration; Office of Human Development; Department of Health, Education, and Welfare.

ST. MARY'S JUNIOR COLLEGE
PUBLICITY RELEASE

ST. MARY'S JUNIOR COLLEGE
2500 South Sixth Street
Minneapolis, Minnesota 55454
(612) 332-5521

BACKGROUND INFORMATION

FOR RELEASE: MAY 14 THROUGH MAY 25 MAY 10, 1979

Employment opportunities for blind and other handicapped individuals are limited. Meaningful work in the medical fields, for example, has historically been almost non-existent. For blind individuals, today, all this is beginning to change and St. Mary's Junior College with the help of a National Advisory Committee is a major force in this expanding area.

One member of that committee is Dr. David Hartman. Graduating from Temple University Medical School in 1976 as the United States' first blind physician, alerted the public to the developing potential of the nation's disabled persons.

> "I don't want to be just another doctor ... I want to demonstrate to the world that a disabled person is not essentially different from anyone else. Of course we need help, but it has to be given without smothering our pride or destroying our self-reliance. I'm especially interested in helping the medical profession become more sensitive to the disabled, to the helplessness and dependency that can develop if we're not encouraged to feel valuable and to learn how to cope with the world."

This quotation reflects the attitude of three students, all blind, graduating this May from St. Mary's Junior College's Physical Therapist Assistant Program and Occupational Therapy Assistant Program. These three students and their demonstrated determination to succeed in allied health fields is exciting.

The three blind students have been part of a project at St. Mary's Junior College that began in 1977. The project, unique to St. Mary's Junior College, focused on the preparation of blind and visually impaired people for the occupational and physical therapy field. This project at SMJC is funded by the Rehabilitation Services Administration, and has enabled 14 visually impaired people to be enrolled at the College where they attend general education courses as well as the specialized allied health courses in their chosen field. Project funds have allowed the College to make modifications in teaching and learning methods.

The majority of written instructional and evaluation materials were converted to audio tapes by the communication center of Minnesota Services for the Blind and, when necessary, by readers at the College. Anatomical models and other instructional devices were labeled with braille tape.

(Over)

Modified equipment was purchased or fabricated when needed to accommodate the special needs of the blind students. It includes braille measuring devices, timing devices, sphygmomanometers, thermometers, light probes, that emit a beep in the presence of light, braille labeling devices, modified recreational and craft devices, erythemameters (which indicate the degree of skin redness by emitting a range of differently pitched sounds), and talking meter readers that produce verbal numerical signals which help blind students to "read" visual meters.

The College has also increased supportive services available to the visually impaired students. A testing center was created so the students could be tested more efficiently in a non-visual manner. The library and audio-visual services have made braille and audio reference materials available for use by the students.

Clinical experience in local hospitals and nursing homes are major components of both the Occupational Therapy Assistant and Physical Therapist Assistant Program curricula. Some accommodations were necessary in several areas beginning with the modifying of equipment at the clinical site. In addition, exploratory orientation and mobility runs to the clinical site made it possible for each student to get to, from, and around the hospital and nursing homes independently.

As the project moved into its final stages, the faculty of St. Mary's are confident that the project can serve as a model for "mainstreaming" the blind and other handicapped persons into some allied health fields. In 1978, the College formed a National Advisory Committee composed of leaders in both allied health fields and in services to the blind. Dr. David Hartman is an active member of this committee and agreed to deliver the Commencement Address at the College's graduation ceremony. The public is most welcome to join the graduates, their relatives and friends to hear Dr. Hartman's address. The ceremony will begin at 7:00 PM on Friday, May 25, 1979, at the Minneapolis Auditorium.

For further information, contact: Sister Jane Vogt, 332-5521, Ext. 223.

ARTICLES

good news

St. Mary's Junior College

Volume 5 Winter 1978 Number 2

Blind Physical Therapist Visits SMJC

Sabri Iltan, left, demonstrates assisting a patient with an ambulation techniques using PTA student Mike Brien.

Students and instructors from SMJC, as well as members of the Physical Therapy departments of Fairview and St. Mary's Hospitals, recently attended inservice workshops conducted by Sabri Iltan from Winnipeg, Ontario, Canada. The workshops concentrated on Iltan's experiences as a blind physical therapist.

Iltan, who lost his sight at the age of four, is currently a physical therapist at Victoria Hospital in Winnipeg, and is co-clinical supervisor of students in physiotherapy. During his presentation at St. Mary's Rehabilitation Center and Fairview Hospital, Iltan worked with four patients. He demonstrated the techniques he uses during the treatment and evaluation of patients to compensate for his sightlessness.

"It was really enlightening to watch him work," said Cory Tate (Physical Therapy Staff at St. Mary's Hospital), "Many of us were mystified as to how a blind therapist could do the non-modality parts of therapy, such as ambulating patients and conducting exercise programs. But he had no problems whatsoever. And in fact, I think he is a better therapist than many sighted ones. It was an excellent workshop."

Barb Baum, Director of the Physical Therapist Assistant program at SMJC commented, "Based on the feedback received thus far, I believe that the presentation by Mr. Iltan had a very favorable impact on those academic and clinical educators who observed him. A large part of this impact was due to the fact that he demonstrated competency in working with actual patients in a clinical setting."

Iltan's appearance was made possible by federal monies granted to St. Mary's Junior College to study the feasibility of training visually impaired individuals for careers in the allied health fields. Iltan spent the second day of his visit working with visually impaired students enrolled in SMJC's PTA program.

Mr. Iltan's outstanding command of both himself and his profession symbolizes excitement and hope about the many possibilities now becoming available to visually impaired people. His words of encouragement and advice were applicable not only to the visually impaired students present, but to everyone else as well. Sabri Iltan is an excellent physical therapist and a charming man—who happens to be blind.

Blind student takes clinical education at Mercy

Is it feasible to successfully train visually handicapped individuals as physical therapy assistants? Mercy was recently involved with this question when a totally blind student spent a week of clinical education here as part of course work toward a physical therapy assistant (PTA) degree from St. Mary's Junior College in Minneapolis.

Mercy is one of about 40 facilities in the Twin Cities that aid in training students from St. Mary's in on-the-job clinical education for PTA and occupational therapy assistant (OTA) programs. St. Mary's requires 18 weeks (half days) of clinical experience for sophomores previous to graduation from the two-year programs. A PTA is trained to assist physical therapists in treatment, but does not evaluate or design the treatment of patients.

Two years ago, St. Mary's received a three-year federal grant to examine the feasibility of two-year technical level programs for the visually impaired. At present, there are seven blind students enrolled in the PTA program, as well as six blind students studying for OTA. Only one other school in the nation, the University of Alabama at Birmingham, deals in the training of students with visual and hearing impairments in PTA and OTA courses.

Dan Johnson, St. Mary's freshmen PTA instructor, said there haven't been any special problems with the traning of the students. "Once they learn their way around the facility, there isn't a problem," he said.

Carolyn Scheffler, a physical therapist at Mercy who worked closely with sophomore Steven Moe during his week of fall clinical education from November 6 to 10th agreed. "Once Steve learned where things were, he was involved with many aspects of PTA work," she said. "He transported patients to and from the rooms, gave heat treatments, and used the tilt table."

During his training at Mercy, Moe said he "really liked this place. The physical therapy equipment and rooms are spread out nicely and not crowded together." Moe is originally from Detroit Lakes, Minn., and currently lives in south Minneapolis. Moe, who lost total sight in 1977, said he chose the PTA field to "find out how my body functions." For five weeks of on-the-job clinical education scheduled in the spring, Moe hopes to work in a nursing home to gain knowledge in a variety of institutions.

Physical therapist Carolyn Scheffler and St. Mary's student Steven Moe aiding a patient at the tilt table. Temporary braille numbers were taped on the instrument to help Moe in his work.

Engineering consultants from Minnesota State Services for the Blind aided St. Mary's Junior College in the development of some modified equipment such as a "talking" meter reader. Other modified equipment for the blind such as braille blood pressure units; braille measuring and timing devices; braille thermometers and light probes are commercially available from the American Foundation for the Blind. Light probes can be used to detect the functrioning of lights on the instrument panel of selective pieces of physical therapy equipment. The talking meter reader converts the visual output of the meters found on the instrument panel of variouis pieces of physical therapy equipment into audio or verbal output.

Minnesota State Services for the Blind is interested in the placement of the visually impaired graduates of St. Mary's programs. In the past, State Services has provided employers with funds for the purchase of modified equipment, on the job training and other special services that promote the employability of visually impaired individuals.

SECTION FOR EDUCATION
TENTATIVE PROGRAM
COMBINED SECTIONS MEETING

QUALITY ASSURANCE IN EDUCATION AND PRACTICE

Wednesday, February 14, 1979	
8:30 am - 9:30 am	"An Introduction to Quality Assurance - What Does It Mean To You?"
9:30 am - 10:30 am	"External Agencies (PSRO, HSA, JCAH) - Impact on Quality Assurance"
11:00 am - 12:00 noon	"The APTA Quality Assurance Program Plan for Implementation - Your Role and Relationships"
1:30 pm - 4:00 pm	"Research in Physical Therapy Education" Open Forum
Thursday, February 15, 1979	
8:30 am - 10:00 am	"Patient Care Audit - Concept and Processes"
11:00 am - 12:00 noon	"Using Audit Results Effectively"
1:00 pm - 3:00 pm	Academic Coordinators of Clinical Education Meeting Educational Administrators Meeting
4:00 pm - 7:00 pm	"Bridging the Gap" "Practice - Education - Certification"
Friday, February 16, 1979	
	"Audit Methodology as a Tool for Performance Assessment"
8:30 am - 10:00 am	"Developing the Tool for Performance Assessment"
11:00 am - 3:00 pm	"Criteria Development for Clinical and Academic Assessment Tools - Students and Staff"
3:30 pm - 4:30 pm	"Discussion of Assessment Tool Development"
Saturday, February 17, 1979	
8:30 - 12:00 noon	"Introducing Quality Assurance in Educational Activities" A. Teaching strategies for the classroom and clinic B. Alternatives for incorporating the teaching of quality assurance and quality assessment mechanisms in the clinic and classroom C. Your responsibilities - now and tomorrow

Training Blind Students

by Barbara Baum and James Serdy

As previously described in *Physical Therapy* (57:935, 1977), St. Mary's Junior College was awarded a three-year federal grant to demonstrate and evaluate the feasibility of training blind persons in two-year technical level allied health programs.

As a result of this grant, three blind individuals (two are totally blind, while one is legally blind) were admitted to the physical therapist assistant (PTA) program in the fall of the 1977-78 academic year. Selection of these students involved an evaluation process which utilized criteria developed jointly by the American Foundation for the Blind and the program faculty at St. Mary's.

The students were enrolled in the standard program curriculum that includes general education courses as well as competency-based technical education courses in physical therapy. An analysis of the entire curriculum was conducted. However, primary attention was focused on the technical education component, since blind individuals have successfully completed general education courses in this and other colleges for a number of years. Subsequent modification of teaching methods, instructional materials, equipment, and supportive services were made based on this curriculum analysis.

One major teaching method utilized in the technical education coursework is instructor demonstration. This area underwent some modification since totally blind individuals would not be expected to gain much knowledge from having techniques performed in the front of the class. These modifications involved:

1) the use of sophomore PTA tutors to meet with the blind students on a one-to-one basis prior to and following class demonstration to familiarize them with the technical materials and procedures; and
2) the use of the blind students as "patients" during the classroom demonstrations.

By accomodating the blind students through the use of these techniques, they were able to learn the required information and to satisfactorily perform required competency skills during classroom mastery testing.

Other modifications were made to written instructional

Ms. Baum is PTA Program Director and Mr. Serdy is Director of Grant Project, St. Mary's Junior College, Minneapolis, Minnesota.

and evaluation materials. These were converted to audio tapes by the Communications Center of the Minnesota State Services for the Blind and, when necessary, by readers at the junior college. Anatomical models were labeled with braille tape as needed.

The following equipment modifications were incorporated to accomodate the special needs of the blind students in the areas of monitoring vital signs and applying modalities: 1) braille measuring devices; 2) braille timing devices; 3) braille sphygmomanometer; 4) braille thermometer; 5) braille labeling devices; 6) light probes; 7) erythemameter; and 8) talking meter reader. The first six of these items are commercially available through the American Foundation for the Blind. Because of their unavailability and importance, the last two items were designed and constructed to given specifications. The talking meter reader produces verbal numerical signals which allow the blind students to "read" the meters found on shortwave, microwave, and ultrasound machines. The erythemameter allows the students to detect degrees of skin redness.

To date, all three of the blind students have satisfactorily completed a twenty-hour introductory clinical experience and have begun a major five-week experience in the clinic. All clinical faculty have been most cooperative in planning and managing the clinical experiences of these students and have expressed a favorable attitude toward the project.

In summary, with relatively minor modifications, the blind students have performed successfully in meeting the classroom and clinical performance criteria set for freshman students in the first two quarters of the physical therapist assistant program at St. Mary's Junior College. The initial reservations of the program faculty have been considerably alleviated by their own experiences with and the fine performance demonstrated by these students to date.

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HAZEL ADKINS NAMED OUTSTANDING EDUCATOR

Hazel V. Adkins, the recipient of the 1978 Outstanding Educator Award of the Section for Education, has been a clinical teacher and coordinator for twenty-five years. She came into the profession after service in the Navy in World War II and received her B.A. degree from Stanford (1948) and her M.A. from the University of Southern California (1954). She joined the physical therapy department at Rancho Los Amigos Hospital in 1953 and has served uninterruptedly at that rehabilitation center to the present time.

In her capacity as an educator she holds formidable credentials for both classroom and clinical teaching. Under her aegis Rancho has developed clinical education agreements with most of the schools in the country and currently 28 schools send students there. Early in her teaching career she developed a curriculum for training aides in P.T. which eventually was adopted by the APTA. She was an early supporter of the concept of the physical therapist assistant and has actively assisted with such curricula development in Southern California Schools.

In physical therapy education only the highlights of her distinguished contributions can be listed: clinical instructor, assistant clinical, and now associate clinical professor at U.S.C. In this capacity she teaches a class in principles of clinical education and since 1971 has been clinical coordinator of the clinical specialist graduate program. From 1968 - 1970 she was on the governing committee of a multicenter program which pioneered the one-year internship in physical therapy, a concept of great promise which financial considerations limited. In recent years she has devoted a great share of her exuberant energy and personality to team building in health care. She is a moving force in interdisciplinary team building to enhance collaborative practice and teaches workshops on the subject all across the country. Addie also is chairman of the team-building committee at Rancho Los Amigos.

Teaching is not the only activity in which Addie excels. As a clinician, she has been termed by her colleagues as "unparalleled". As a clinical investigator she participated in the development of glossopharyngeal breathing as a viable adjunct for the paralyzed patient; with Viola Robins she pioneered techniques of orthodontic physical therapy. In media development she has produced independently and with others numerous video tapes, sound-slide education series, and lecture tapes.

As an active APTA member since 1948 she has served the association in a variety of ways including district and chapter committees as President of the California Chapter, and as its chief delegate.

Addie's greatest accolades, however, came not from the numerous awards and citations she has received, but from the warmth and love given and received from the thousands of physical therapists, here and abroad, whose lives she has touched as a warm, knowing, caring educator.

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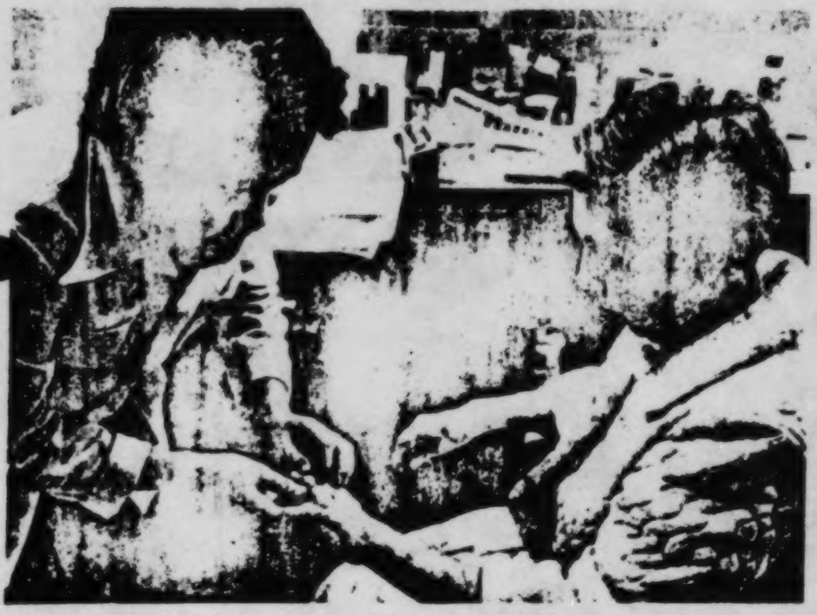
From the 1979 January-February
issue of AMERICAN REHABILITATION

Visually Impaired Students In Allied Health Field

James Sevdy and Barbara Baum



Traditionally, training in the occupational and physical therapy fields has been closed to blind students in this country. Recently, a new trend has started through the efforts of an RSA-funded project at Saint Mary's Junior College in Minneapolis.

The project, entitled "Experimental Training and Placement of Blind Persons in Selected Two Year Technical Level Allied Health Programs," is a 3-year project that focuses on the preparation of visually impaired people for the occupational and physical therapy assistant fields. The major objectives are to determine in what ways selected established allied health curricula and related materials and equipment need to be adapted to prepare blind people for careers in the allied health area; to demonstrate that blind people can be trained in standard, but appropriately adapted, allied health curricula; to determine what procedures are necessary to assist these people in securing employment in the allied health area; and to establish the ongoing processes needed to continue to train blind people in allied health fields in this institution and other institutions that may want to use as model our processes.

As the result of the project, 14 visually impaired people have been admitted to St. Mary's Junior College in the past year and a half; seven in the Occupational Therapy Assistant Program and seven in the Physical Therapist Assistant Program. Their final selection involved a special orientation and evaluation process conducted after all had successfully qualified academically to attend the college.

A student orientation process was instituted to ensure the students and the school that a proper career choice had been made. It was accomplished by providing the student with needed information about the college and the chosen field through student-faculty meetings and tours of the college.

The selection of the students also involved an evaluation process which used criteria developed jointly by the American Foundation for the Blind and the two program faculties. The criteria depicted qualities that any person, sighted or blind, would need to have to be successful plus the special qualities blind OTA's or PTA's would have to exhibit.

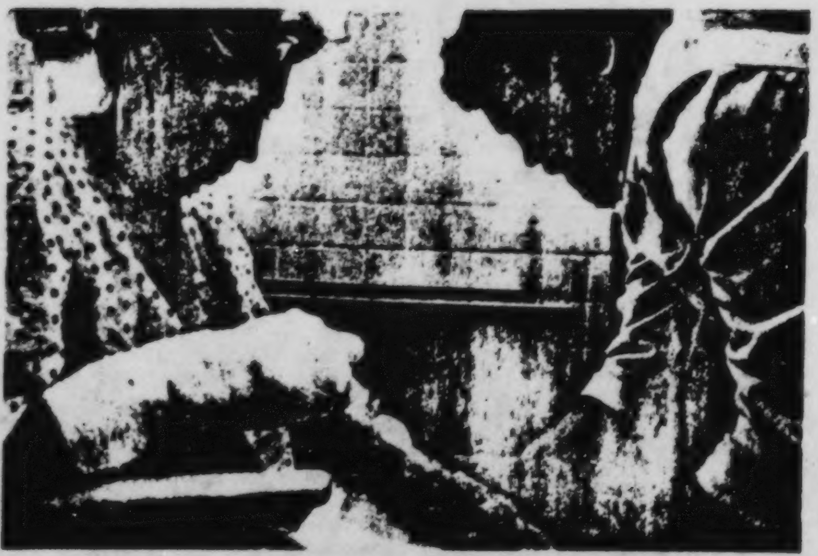
The selection criteria were grouped into five evaluative areas, namely, past academic achievement, level of communication skills, level of orientation and mobility skills, and performance during an oral interview and during an OTA or PTA skills test.

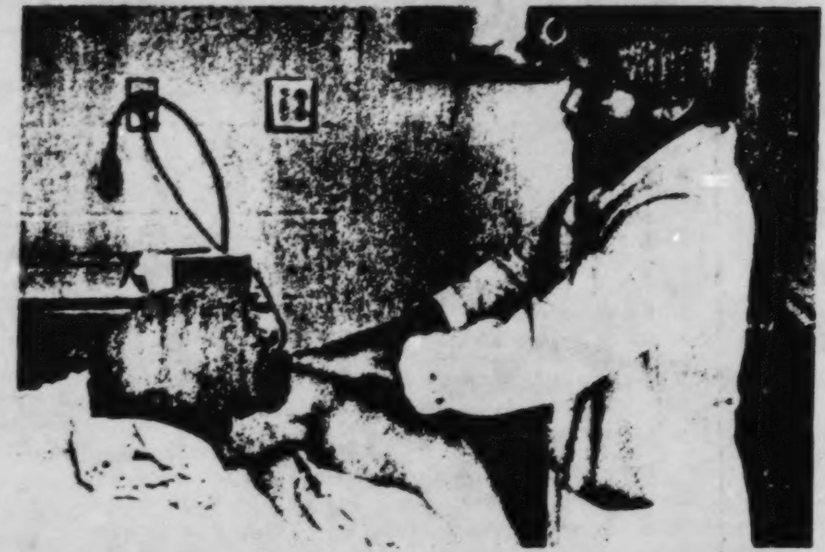
The specific skills evaluation was the most significant indicator since it provided the greatest degree of separation among the candidates. This evaluation was accomplished through the selection of techniques out of the regular curricula that encompassed the majority of the special criteria items. The students were instructed in the proper performance of the techniques. They then were asked to demonstrate their mastery of the techniques while the faculty rated their performances.

The orientation and evaluation process itself was evaluated and later refined after each year's session. The use of this process has increased the probability of success by providing the project with suitable, well-motivated candidates. The participation of the faculty in the process has also helped to improve their relationships with the visually impaired students.

The students were enrolled in the standard program curriculum that includes general education courses as well as competency-based technical education courses. Competency-based technical education courses are built around the learning of a set of basic therapeutic techniques that have been validated by practitioners as essential to practice in the field.

Prior to student enrollment, an analysis of the two curricula was conducted by the project coordinator with the cooperation of the faculty. During this analysis, teaching methods, instructional materials, and equipment were evaluated on the basis of their appropriateness for nonvisual learning and use. Subsequent modifications were made in these areas based on this curriculum analysis.





The standard instructional methodology was modified slightly to incorporate the use of the blind students as classroom demonstration models and the use of sophomore students as tutors. The active use of blind students as models, when a difficult technique was being demonstrated in front of the class, allowed them to learn the technique in a nonvisual manner. The use of sophomore students as tutors gave the blind students additional access to skilled assistance without placing an additional burden on the faculty. By accommodating the blind students through the use of these techniques, they were able to learn the required information and to satisfactorily perform required competency skills during testing.

The majority of written instructional and evaluation materials were converted to audio tapes by the communication center of Minnesota Services for the Blind and, when necessary, by readers at the college. Anatomical models and other instructional devices were labeled with braille tape, as needed.

Modified equipment was purchased or fabricated when needed to accomodate the special needs of the blind students. It consisted of braille measuring devices, timing devices, sphygmomanometers, and thermometers, light probes (in this case, emits a beep in the presence of light), braille labeling devices, modified recreational and craft devices, erythemameters (indicates the degree of skin redness by emitting a range of differently pitched sounds), and talking meter readers that produce verbal numerical signals which allow blind students to "read" visual meter.

The first seven of the above listed items were commercially available through the American Foundation for the Blind. Two electrical engineers were contracted by St. Mary's Junior College to design and construct the erythemameter and talking meter reader due to their unavailability and importance. The talking meter reader allows the blind students to accurately read the meters found on shortwave, microwave, and ultrasound machines which are used as primary treatment modalities in physical therapy. The erythemameter measures the degree of skin redness in the treated area which is an indication of treatment success after using some modalities.

The college has also increased supportive services available to the visually impaired students. A testing center was created so the visually impaired students could be tested more efficiently in a nonvisual manner. The library and audio-visual services have ordered braille and audio reference materials for use by the blind students.

Clinical affiliations are major components of both the OTA and PTA curricula. Some accomodations were also necessary in these areas. The clinical sites had to be contacted and informed about the project. The project coordinator took each of the students on an exploratory orientation and mobility run to the clinical site and had each student talk to the clinical staff prior to the start of the clinical experience. This introduction helped to alleviate anxiety and to lessen the staff's misconceptions about blindness. Orientation and mobility training made it possible for each student to get to, from, and around the clinical site independently. The project coordinator also organized the modified equipment for efficient use by the blind students at the clinical sites. Overall, all clinical staff have been most cooperative in planning and managing the clinical experiences of the students and have expressed a favorable attitude towards the project.

The college formed a National Advisory Committee composed of leaders in both the allied health field and in services to the blind. Its purpose is to provide national leadership and promotion to the project. The college also formed an internal faculty and student advisory board to provide internal direction to the project.

This fall, an institutional impact analysis has been implemented. Its purpose is to study the impact that the visually impaired student population is having on the school. The visually impaired students, faculty, tutors, and other significant groups will be asked periodically to complete a questionnaire. It is hoped that this study will provide an organized body of information that the college can use to plan the future of this project and that other institutions can use to provide services to this population.

The college has also started to compile a cumulative record on each of the visually impaired students. This record will be comprised of the student's current vision report, a report of the student's primary modes of learning, a list of the student's requests for instructional accommodations, and a list of the instructional accommodations made and the results. Copies of each record will be given to the student's teachers at the start of every academic quarter after student approval. The primary purposes of the record are to serve as an aid to the faculty in accomodating the special needs of the visually impaired student and to help build a body of knowledge around this important topic.

At this half way point in the project, the experiences can be summarized as follows: With relatively minor modifications, the majority of the visually impaired students have successfully met the classroom and clinical performance criteria of their respective programs; the initial reservations of the faculty have been alleviated considerably by their own experiences with competent performance demonstrated by these students; and the college, through its committees, impact analysis, and cumulative record system, is actively seeking knowledge to fulfill the objectives of the project in an organized manner.

In the near future, the primary focus of the project will shift from the educational preparation to the job placement of the sophomore visually impaired students. Assuming that these students will satisfactorily complete their respective curricula, the final critical issue of this feasibility project will rest in the area of placement. Unless the graduates can be successfully employed, the entire viability of our endeavors will be short-lived.

Mr. Sevdy is the coordinator of the project described here and Ms. Baum is a physical therapist and director of the physical therapist assistant program. Both are staff in St. Mary's Junior College, Minneapolis.

Better opportunities seen for blind willing to learn

By JO-ANNE BYRNE

MINNEAPOLIS (UPI) — Put yourself in someone else's shoes: You've got a scientific bent. You're bright and eager to learn. But you're blind.

Where can you learn if you're interested in some aspect of the medical profession, an area which has until recently been traditionally closed to blind practioners?

St. Mary's Junior College initiated a project in 1977 designed to educate blind and visually impaired students for the occupational and physical therapy assistant fields.

Jim Sevdy, coordinator of the allied health project for visually impaired students, said the project began because "we wanted to study the feasibility of training the blind in their jobs, placing them in the field, and then develop a model for other colleges."

Of the six students recruited in the summer of 1977 three graduated this spring. One, who has functional vision, was placed in a job at a nursing home.

That left 10 blind students in a school population of 800.

Sevdy said the project will flourish at St. Mary's because "we have a traditional educational system here." But he is concerned about the necessity of spreading the word.

"If we succeed here, it won't mean anything," he said. "It's necessary to let people know and eventually nobody will think twice about the person being blind if he has the academic qualifications."

Patricia Miller, coordinator of the physically handicapped in science project, has adapted the science learning experience for visually impaired students. She has focused on making abstract concepts visual and tangible.

Since she believes more students will be moving into higher educational levels as a result of mainstreaming of the handicapped, "We want to assure that the blind can be successful college students and can learn science and benefit from laboratory experience."

Although she had no prior experience in working with the blind, Miss Miller said she worked in the lab to get the idea of what might be useful, and her familiarity with the college curriculum and interest in effective teaching techniques spurred her on.

Most students in the project have come through Minnesota Services for the Blind which works closely with the school.

Sevdy said Minnesota Services makes tapes and some Braille materials for the project, and provides a reader service to students and funding resources.

Modified equipment was purchased when needed to accommodate the special needs of the blind students. This included braille measuring and timing devices, thermometers, light probes that emit a beep in the presence of light, braille labeling devices, modified recreational and craft devices and erythemameters which indicate the degree of skin redness by emitting a range of differently pitched sounds.

The college also has increased supportive services available to the students. A testing center was created so students could be tested more efficiently in a non-visual manner.

Students receive clinical experience in local hospitals and nursing homes where some accommodations are necessary, beginning with modification of equipment at the site.

Plans call for including the hearing impaired in the school project in the fall of 1980. "We will enrich the language component of our courses and use sign language for science terms," Miss Miller said.

In 1978 the college formed a National Advisory Committee composed of leaders in both allied health fields and in Services to the Blind. Dr. David Hartman, commencement speaker this year, is a committee member and first blind physician in the United States.

One of the St. Mary's graduates, Debra Schuerman of Herman, Minn., has a speech pathology degree from Moorhead State.

Physical therapy was her first choice, however, and she went to Moorhead when she was unable to get into a school where she could pursue that profession.

"I really thought my acceptance at St. Mary's was the answer to my prayers," she said, "that doors were being opened up to let me in. I felt I had to prove myself."

During her studies she found giving ultra violet treatments "scary to me and I practiced on all my classmates to build up my confidence." She also discovered the frustrations of having to slow down and learn where things were during her practical experience in hospitals.

She has not yet been placed, but Miss Schuerman hopes for work in a rehabilitation center. "I've found working with people is rewarding for me," she said.

Sevdy said it appears placement will be easier than originally anticipated. But he wants to make sure the school teaches the students how to sell themselves and how to make people around them feel more comfortable.

"A lot of people," he said, "don't know how to respond to the blind."

St. Paul Pioneer Press
22 F Friday, May 25, 1979

First blind therapists trained

By SYLVIA LANG
Staff Writer

Three young blind women will listen particularly attentively today when Dr. David Hartman speaks to St. Mary's Junior College graduates.

Dr. Hartman is America's first blind physician. And the three women are the first blind graduates of St. Mary's occupational and physical therapy assistant programs.

Hartman will speak during 7 p.m. commencement ceremonies at Minneapolis Auditorium. After his own graduation in 1976 from Temple University Medical School, he said that he didn't want to be "just another doctor . . . I want to demonstrate to the world that a disabled person is not essentially different from anyone else."

ONE BLIND graduate, Debra Schuerman, 24, of St. Paul, added to that. "In the past, there haven't been so many chances for blind people to get into certain professions," she said. "I've had to fight. When the program here (at St. Mary's, in Minneapolis) came along, I was given hope. I think things are changing."

Schuerman is almost completely blind. She was born with glaucoma. Before enrolling at St. Mary's, she received a bachelor's degree in speech therapy from Moorhead State University.

Schuerman and Rosanne Gliniany, 20, of Minneapolis, are graduating as physical therapist assistants. Estelle Lincoln-Clary, 27, of Spring Arbor, Mich., will receive an occupational therapist assistant's degree.

GLINIANY IS legally blind; she can read print close-up so she used regular textbooks. Lincoln-Clary, however, can only see "if the words are really, really enlarged," she said. So she, and Schuerman, used cassette recordings of books and classroom material. Classmates also took notes when needed.

Demonstrating how to teach patients to negotiate stairs on crutches are Rosanne Gliniany, (patient) and Debra Schuerman. Both are blind. — AP Wirephoto

Gliniany begins work Tuesday at a nursing home in Robbinsdale. Schuerman said she'll look for a job over the summer. And Lincoln-Clary said she's applied for jobs in Michigan "but am not all that hopeful because occupational therapist assistants aren't used as commonly there as they are in Minnesota."

ST. MARY'S STARTED its program for blind students two years ago under a three-year federal grant. This year, seven students were enrolled in the PTA program and six in the OTA program.

Engineering consultants from Minnesota State Services for the Blind helped the college develop modified equipment for the blind students — including a "talking" meter reader which converts readings on the instrument panels of physical therapy equipment to audible signals. Also available are Braille blood pressure units, Braille thermometers and light probes that can be used to detect the functioning of instrument panel lights.

Gliniany said the modified equipment is particularly important for blind PTAs because of the potential injury to patients from overexposure to ultraviolet and ultrasound therapy.

THE BLIND students said they found it easier to work with actual subjects instead of anatomical models in the classroom. "I could get a better sense of where the muscles are," Schuerman said. PTA program director Barbara Baum said other students besides the blind ones found they also benefitted more from using live models. "So this program has taught us some things, too," she said.

Lincoln-Clary said blind students in OTA training don't need as much modified equipment as those in the PTA program, "but on the job I would need a typewriter for charting. I can't see what's written on the charts."

The students agreed their pioneering path isn't rose-strewn. For example, will all of the extra equipment they had at St. Mary's be available to them on the job? They agreed that will depend on employers willing to pioneer with them.

"But each of these students can do as good work as our graduates who are not blind," said

APPENDIX B

ADVISORY COMMITTEES - EXTERNAL AND INTERNAL

The following documents include a list of the National Advisory Committee members and the report that was sent to the members following the first and second meetings. The meetings and the subsequent reports are the basis for many of the refinements in the project's operating procedures during the second year of the project.

A list of the Internal Advisory Board members has also been included. This committee has provided internal direction to the project so that it has remained compatible with the institutional goals of St. Mary's Junior College.

ADVISORY COMMITTEES

Established by the College as a means of consultation and sharing of resources and ideas, many of the revisions in operating procedures made in the second year of the project can be attributed to recommendations offered by advisory committees.

National Advisory Committee: Composed of leaders in both the allied health field and in services to the blind, the National Advisory Committee was formed in the Spring of 1978. The main purpose of this committee is to provide national leadership and promotion to the project by critically reviewing all project activities and making recommendations for refinement, developing strategies to promote professional awareness of and interest in project outcomes; and assisting in the placement process.

The first annual meeting of the National Advisory Committee was held at St. Mary's Junior College on April 6, 1978. The meeting proved extremely productive and several recommendations were later implemented to refine our activities. These recommendations will be continually referred to throughout this progress report. In addition, the meeting established a project liaison with several important organizations and selected audiences. These include the Office for the Blind and Visually Handicapped, the American Occupational Therapy Association, the American Physical Therapy Association, the Council of Allied Health Evaluation and Accreditation of the American Medical Association, the American Foundation for the Blind, Minnesota State Services for the Blind, sister educational institutions, hospital administrators and employers. These groups represent a prominent force in both the allied health fields and in services to the blind. Their continued support can nurture the efforts being made at St. Mary's Junior College and promote new ventures across the country. Therefore, a solid relationship with all of these groups is essential to the overall success of the project.

The second meeting of the National Advisory Committee was held at St. Mary's Junior College on May 10, 1979. The focus of the meeting was on matters concerning the placement of our VI graduates into employment. The meeting was quite productive and several recommendations were generated. We plan to continue utilizing this group to provide the project with national leadership and promotion. As the project progresses, we will continue to use advisory committess as a transitionary mechanism to help us gather knowledge about a particular concern. Existing committees will eventually be phased out and new advisory committees will be generated. At the present time, we plan to form a new advisory committee around employed VI graduates and their employers. This committee will gather information about the effectiveness of our graduates, problems they may be encountering at their employment sites and changes we can make in our curriculum to help new graduates avoid these problems.

Internal Faculty Advisory Board: Composed of St. Mary's Junior College faculty members, this important internal committee was formed during the first year of the project and continues to meet once every six weeks. It's primary function remains to provide internal direction to the project so that project-objectives remain compatible with institutional goals established by St. Mary's Junior College. In order for the project to grow and prosper, it has to have the support of the faculty and blend with overall institutional goals.

The development of the institutional impact analysis and the integration of the project into the College reduced the role of advisory committees during the third project year.

The thorough nature of the impact analysis questionnaires, which are filled out by the VIS at the end of each academic quarter and by the clinical supervisors at the end of each clinical experience, tended to make organized clinical supervisors and student advisory groups repetitive. The questionnaires allow the students to express their opinions regarding the need for new accommodations and the effectiveness of present accommodations. Although some peer support has developed, the VIS appear to prefer to seek support from the Project Coordinator or faculty members. Clinical supervisors prefer to provide the project with needed information through filling out the questionnaire and meetings with the clinical and project coordinators at their clinical site. Therefore, efforts to create clinical supervisors and student advisory groups have been discontinued.

During year three, we disbanded the Internal Faculty Advisory Board. During the first two years of the project, this board played an important role in providing the project with internal direction, and the faculty with a forum to discuss their concerns. However, we felt that the project had reached a point in the integration process which will allow the traditional internal groups within the college to assume these functions.

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ST. MARY'S JUNIOR COLLEGE
SMJC
2500 South Sixth Street
Minneapolis, Minnesota 55454
(612) 332-5521

October 24, 1978

Dear

Thank you for your participation in the first annual meeting of the National Advisory Committee to the RSA funded project titled, "Experimental Training and Placement of Blind Persons in Selected Two-Year Technical Level Allied Health Programs" held at St. Mary's Junior College on April 6, 1978. Your suggestions and recommendations were especially valuable to us as we begin to carry out the second year of our three-year project.

Since the Committee met, we have begun to formulate ways in which your suggestions and recommendations can be incorporated into our project activities for the 1978-1979 academic year. Enclosed, you will find a summary of the April 6th meeting which includes the Committee's recommendations and our plans for the implementation of these recommendations. Any evaluative feedback you would like to share with us regarding our implementation plans and/or projections for the coming academic year would be appreciated.

We look forward to hearing from you and hope to see you again at the next Committee meeting scheduled for early Spring, 1979.

Sincerely,

James Sevdy

James Sevdy
Project Coordinator

JS:nk

FIRST ANNUAL MEETING: NATIONAL ADVISORY COMMITTEE

to the RSA Project "Experimental Training and Placement of Blind Persons in Selected Two-Year Technical Level Allied Health Programs"

April 6, 1978

Committee members were welcomed by Sr. Anne Joachim Moore, President of St. Mary's Junior College. The Coordinator of the Project, Jim Sevdy, presented an overview of the Project's progress to date indicating that visually impaired students were enrolled in two of St. Mary's Programs--the Occupational Therapy Assistant (OTA) Program and the Physical Therapist Assistant (PTA) Program.

Patricia Babcock, OTA Program Director and OTA program faculty described the OTA program and the progress visually impaired students made during the first year of the project. During discussion, the Committee made recommendations in the following areas (note accompanying plans to implement Committee recommendations in each area):

1. Orientation/Evaluation Process/ Admissions Criteria for St. Mary's Visually Impaired Students
    a. De-emphasize the motor skills component of the evaluation process.
    b. Add a screening process to determine each candidate's level of acceptance of their disability.
    c. Revise admissions criteria based on input from OTA program faculty.
    d. Require potential students to visit a clinical site during the orientation process.

Progress to date:

The Project staff and OTA program faculty met several times to review the first-year project activities and determine methods by which to incorporate the Committee's recommendations. Concerns raised during these meetings included how to determine potential students a) level of acceptance of their disability, b) feelings about themselves, c) understanding of the nature of occupational therapy, d) manual dexterity, e) ability to handle difficult situations, f) ability to demonstrate self-initiating behavior, g) verbal teaching skills, and h) ability to accept constructive criticism.

Based on the above concerns, the orientation/evaluation session was revised to include the OTA program faculty to a greater extent in the process. The orientation/evaluation process now includes these components: 1) a clinical site visit; 2) a learning styles and mobility evaluation administered by a vision teacher and mobility specialist; 3) a role-playing session conducted by the OTA faculty designed to increase awareness of what it's like to be a visually impaired student in St. Mary's environment; 4) a question/answer session conducted by the OTA faculty; and 5) a discussion session led by a visually impaired sophomore OTA student.

On June 20, 1978, a group of visually impaired students participated in an orientation/evaluation session for admission to the Fall OTA class. OTA program faculty appeared impressed by the candidates. The visually impaired candidates seemed knowledgeable and comfortable with SMJC's academic setting.

2. Lessen the degree of anxiety experienced by visually impaired students in the St. Mary's environment by implementing environmental changes-- specifically, by providing increased support and encouragement.

Progress to date:

In moving toward building an environment at SMJC in which visually impaired students can feel more comfortable, the project staff met several times with OTA faculty, PTA faculty, SMJC counseling staff and visually impaired students.

Ideas generated at these meetings included a) the formation of a visually impaired student support group to provide mutual support; sharing of solutions to problem situations encountered at the College, and provision of feedback to the College regarding further accomodations needed, b) OTA program faculty have restructured the fall quarter OTA courses to include more opportunities for all students to interact. This is intended to promote more interaction among the sighted and visually impaired students and decrease the visually impaired students' feelings of isolation from the sighted student population, c) SMJC counseling faculty have become more involved in the Project and have provided more training to peer tutors who will be working with visually impaired students.

3. Obtain more information about each visually impaired student's visual loss and determine how low visual aids can be used to correct this visual loss.

Progress to date:

Through the use of the learning styles evaluation carried out during the orientation/evaluation session, we have already collected information about each visually impaired student's visual functioning.

We plan to ask each State Agency for an Ophthalmological report on each visually impaired student and a detailed low vision aid evaluation report to determine which students could benefit from low vision aids. This information will be kept in the project files.

A cumulative record of instructional accomodations has been designed to record and transmit all of the instructional adaptations which have worked for a particular student. The system incorporates a record of the student's visual status, the report of a vision teacher/consultant, student requests for specific instructional approaches, faculty records of instructional adaptations which have been attempted and student validation of what has worked. The records will be distributed to faculty at the beginning of each quarter and collected again at the quarter's end. The records will be reviewed individually with each student quarterly. What has been found to work will be included on the record for redistribution the following quarter.

4. Regarding the Project's linkage with the American Occupational Therapy Association (AOTA), Mary Young suggested we submit articles to AOTA Publications and make presentations at AOTA conferences.

Progress to date:

In an effort to develop a good working relationship with AOTA, we plan to request travel funding in our next budget for the purpose of attending AOTA conferences. Information about the Project's progress will be presented at these sessions. Also, an article (that will be partially written by a visually impaired student), is being prepared for submission to AOTA publications.

Following this discussion, Barbara Baum, PTA Program Director and PTA program faculty reviewed the components of the program, discussed initial faculty concerns, the visually impaired student selection process and instructional modifications made during the first year of the Project. Donna Pauley, Supervisor of the Physical Therapy Department at the University of Minnesota Hospitals described her experience in supervising two visually impaired PTA students in the clinical setting.

During discussion, Dr. Hartmann indicated that he believes visually impaired PTA's are able to use ultraviolet light in the treatment of open wounds. This area will be further explored during the 1978 - 79 academic year.

Janice Toms suggested a publication and presentation schedule designed to strengthen our relationship with the American Physical Therapy Association (APTA). This schedule will be implemented during the coming academic year as funding permits.

The afternoon session with Dr. Lawrence Demarest and Dr. Mary Broderick focused on assessing the impact of the Project, promoting professional awareness of and interest in the project, disseminating project materials/findings and recommendations from the Committee regarding the placement of St. Mary's visually impaired students and graduates.

The Committee identified these groups among those that could potentially be impacted by the project: patients/clients, licensure boards/testing services, other college training programs, professional organizations (eg., allied health) and practitioners, clinical clerkships, consumer groups (national, state and local), families, funding sources and legislative groups, doctors who may supervise our visually impaired students/graduates, equipment manufacturers and employers.

Discussion focused on the impact of the Project on clinical affiliates-- particularly, the placement process for our visually impaired students and graduates. The Committee agreed that the clinical placement process should center on individual visually impaired students (depending on visually impaired student's preferences) and use both SMJC's placement network as well as other resources, agencies and American Foundation for the Blind contacts and resources.

The need to communicate more information to clinical staff regarding what visually impaired students can and will be able to do as well as teach the visually impaired students about what to expect in the clinical environment was also identified by the Committee.

Committee members also suggested that both visually impaired students and the staff in clinical facilities could learn more about each other through optional volunteer clinical placement and summer job placements in clinical settings.

The Committee agreed that visually impaired students could "sell" themselves by demonstrating their competencies in clinical settings. In the fall, SMJC's OTA and PTA clinical supervisors were invited to a clinical skills demonstration given by a visually impaired physiotherapist from Canada. Those present were amazed at his range of skills !!!

Ways in which the competence of our visually impaired students and graduates could be communicated to clinical affiliates and potential employers was discussed. The Committee agreed that the Project needs to create an attitudinal acceptance of our visually impaired students "out there". This acceptance could be developed through various information dissemination techniques suggested by Committee members:

a. Visually impaired students explain their function (and "sell themselves") to clinical staff alone.

b. Project staff explain visually impaired students function to clinical staff.

c. Project staff and visually impaired students together explain their function to clinical staff.

The third technique is the one Project staff will further implement this fall. The Project Director and the visually impaired student will meet with the clinical staff together. This technique was initiated in the summer of 1978. Clinical staff responded very favorably to the co-presentation.

The Committee discussed additional strategies to disseminate information about the Project including presentations, demonstrations to National OT and PT conferences [made by visually impaired students], articles to relevant journals, contacting Sixty Minutes (a program on CBS network), making a presentation on the Radio Talking Book Network and mailing information packets to appropriate organizations and agencies.

Committee members were thanked for their participation and the meeting was adjourned.

SECOND ANNUAL MEETING: NATIONAL ADVISORY COMMITTEE

to the RSA Project "Experimental Training and Placement of Blind Persons in Selected Two-Year Technical Level Allied Health Programs"

May 10, 1979

Committee members were welcomed by Sr. Anne Joachim Moore, President of St. Mary's Junior College. In her remarks, she stated that the college had received some unexpected benefits by having the project at the college. One of these was a better understanding of the learning process.

The project coordinator, Jim Sevdy, gave an overview of the project's status. He stated that the project was at a transition point. It was turning from concerns regarding training, to concerns involving the placement of visually impaired graduates.

Patricia Babcock, OTA Program Director, and OTA program faculty described the OTA program and the progress visually impaired students made during the second year of the project. The faculty also described the changes that were made in the orientation and evaluation session process. These changes, ones that were based on the recommendations of the Advisory Committee, greatly improved the effectiveness of the session. This revised process was also utilized in the 1979 session with improved results.

The visually impaired OTA students also discussed their experiences at the college. They stated that, in general, their experiences had been quite rewarding. However, they also stated that there had been several frustrating incidents due to their pioneering status. As a group, the students felt that it was quite feasible to train visually impaired individuals to be Occupational Therapist Assistants.

Two additional topics were discussed during the OTA session. The first involved the therapeutic interaction between the blind therapists and their sighted patients. The students stated that they often admit to their patients that they have a visual problem and may have to rely on them for visual inspection. This openness has appeared to help the blind therapists to build a successful and trusting therapeutic relationship with their sighted patients. The second topic involved the type of accommodation given to visually impaired students in administering the National Certification Examination. One of the students complained that the testing service would not give her the type of accommodation that she required. She stated that she prefered a taped copy of the examination as opposed to a reader. The committee felt that there were substantial differences in the two accommodations and that visually impaired students should receive the accommodation of their choice.

During the OTA discussion, the committee made the following recommendations (note progress in implementing each recommendation listed after each recommendation):

1. Show the movie entitled "Not Without Sight" to the faculty and sighted students to promote their understanding of blindness.

Progress to date:

The faculty, staff and students of St. Mary's Junior College were given the opportunity to view the film on three occasions during the past year.

2. Identify the modified techniques used to produce the crafts so they can be shared by other interested parties.

Progress to date:

The OTA faculty is in the process of compiling all of their knowledge about modification techniques in producing crafts. This knowledge will be summarized in the final report of the project and hopefully some journal articles.

3. Start developing pre-admission testing for all students.

Progress to date:

We are in the process of developing technical standards for all St. Mary's Junior College programs. After these standards are developed, all students (sighted or blind) will have to indicate that they can meet these standards. Those individuals that indicate they do not meet the technical standards will be invited to participate in a special orientation and evaluation session.

4. Assist our visually impaired graduates so they obtain the type of testing accommodation they desire during the administration of the National Certification Examination.

Progress to date:

Due to the intervention of Advisory Committee member, Stephanie Pressler, our visually impaired graduates received their prefered accommodation and passed the examination.

Following this discussion, the visually impaired PTA students discussed their experiences. They stated that it was hard to determine the right combination of speed and safety in performing their PTA tasks. The size of the clinical site also had a dramatic effect on the performance. Many of the students were also hindered by extra medical equipment such as IV's and catheters. However, all of the students indicated that it was feasible to train visually impaired students as Physical Therapist Assistants.

Following the student's discussions, some of the clinical supervisors gave their impressions of the clinical performances of the visually impaired students. They stated that they were amazed by the abilities demonstrated by the students. However, many problems and concerns were also mentioned. Some of these included the ability to transmit and receive information from the medical records, the ability to handle a full patient load, the ability to deal with skin problems and the ability to communicate with the patients. Despite these problems, they stated that visually impaired PTA's could probably become as effective as sighted thepapists.

After lunch, Pat Miller described her experiences as the coordinator of the project designed to modify science learning experiences for visually impaired students. She stated that the project concentrated on helping the students visualize or understand otherwise adstract science concepts. She concluded by stating that in many cases, the best answer to an adaptation problem was effective teaching techniques which provided experiential learning in a variety of modes.

Following Pat, Maureen O'Brien described the impact study that she implemented to study the impact that the visually impaired students are having on the college. She stated that the college decided to do a scientific study in this area because of it's importance to the educational community. In order to obtain the necessary data, she designed questionaires to be administered to the visually impaired students, faculty, tutors and clinical supervisors. To date, the study has indicated that there were some initial problems and concerns which are now evaporating as the students become more integrated into the college. In future, St. Mary's Junior College plans to summarize the findings of the study and to share this summary with other allied health schools to help them overcome any attitude barrier they may have against disabled students.

Following Maureen, Mary Broderick discussed the future relationship of handicapped student populations to St. Mary's Junior College. She stated that the school is trying to integrate services for handicapped students into the regular service system and learn how to reorganize this system so it responds to many different needs without taxing the system and increasing the costs. This effort is important because St. Mary's Junior College has limited resources but plans to serve additional disabled populations such as the hearing impaired. Other plans mentioned included the development of technical standards for all St. Mary's Junior College programs, the creation of a career counseling service for handicapped students, the development of a bank of resources and equipment, and finally, a more complete search for opportunities to discuss the project outcomes with important audiences.

The remaining afternoon sessions involved discussion concerning such issues as placement, reasonable accommodation, technical standards and information dissemination. The committee recommended several resources that the school could utilize to find placement opportunities for our graduates. There was a general agreement that students should not mention Section 504 to employers unless a need arises. In terms of providing a reasonable accommodation, the committee felt that you must weigh the extra cost against providing a community service and the publicity to be gained from it. If the facility is large enough to hire more than one disabled therapist, it is a good way to spread the costs. In the area of purchasing needed modified equipment, the Committee decided that the students should not discuss this issue with potential employers. This responsibility should fall on the student's rehabilitation counselor. The counselor must negotiate with potential employers to determine how much of the cost the employer could bear without causing an economic hardship. Due to financial situations of hospitals and the fragile market for blind OTAs and PTAs, it was also felt that every alternative avenue for equipment funding such as the Federal Government and private foundations should be explored.

The meeting was concluded by asking the Committee for some final thoughts and recommendations. In general, there was a mood of excitement and enthusiasm for what the project has accomplished and the future of the project. Many recommendations were made regarding the greater utilization of the committee in supporting the project and disseminating information about it. Many of the committee members felt that the project should be expanded into other allied health disciplines.

Committee members were thanked for their participation and the meeting was adjourned.

FACULTY ADVISORY COMMITTEE TO THE BLIND PROJECT MEMBERS

Pat Babcock
Janet Marinelli
Sue Brock
Grace Orr
Sr. Karen Hilgers
Sr. Karen Hophan
Sr. Elizabeth Kerwin
James Sevdv
Mary Broderick

Barb Baum
Maureen O'Brien
Pat Miller
Colleen Brinkhaus
Betty Bragg
Dorothy Hare
Sr. Marie Annette Fitzgerald
Dan Johnson

APPENDIX C

SPECIAL EVALUATION

1. Common Evaluation Forms
2. Specific Skills Evaluations
3. Orientation and Mobility Test for Occupational Therapy Assistant and Physical Therapist Assistant Candidates
4. Specific Orientation Tests
5. Pre-Selection Tests for Manual Dexterity, Proprioception and Stereognosis
6. Evaluation Report on Orientation and Mobility Assessment

SELECTION AND EVALUATION PROCEDURES

SELECTION CRITERIA -- Selection criteria were evolved from recommendations made by the American Foundation for the Blind and the directors of SMJC's Occupational Therapy Assistant (OTA) and Physical Therapist Assistant (PTA) programs. The criteria indicate qualities that any person, sighted or blind, would need to have to be successful in these two programs, plus the special qualities blind OTAs and PTAs would have to exhibit.

EVALUATION PROCEDURES -- Selection criteria were grouped into five areas, namely, past academic achievement, communications skills, orientation and mobility skills, performance during an oral interview, and specific OT or PT skills. The candidate's record of past academic achievement was evaluated by the SMJC admissions office and the Project Coordinator. Level of achievement was assumed to reflect the person's intellectual ability, level of motivation, ability to retain information, and ability to grasp ideas and methods quickly.

The candidate's communication skills and mobility and orientation skills were evaluated by the Minneapolis Society for the Blind. These tests measured the person's ability to read and write with speed and accuracy in the primary communication channel and ability to type. Orientation and mobility were evaluated in a number of travel situations.

The oral interview tested knowledge and interest in the field to be studied and also ability to relate to counselors and instructors.

The above three areas were identical for all candidates. Depending upon the candidate's preferred field of interest, she/he was evaluated on either the OTA or PTA special skills performance.

The most significant indicator was the area of specific skills evaluation. Much of the instruction at SMJC is competency based. This means that a particular technique is demonstrated before the class by the instructor; the students then are given time to practice and then they must demonstrate their competency in a mastery skill test of the technique. Therefore, it appeared that this approach should be simulated in the evaluation. A segment out of the curriculum that encompassed the majority of the special criteria items was selected and regular program staff carried out the evaluation.

The physical therapist assistant specific skills evaluation centered on a Hoyer lift mastery skills test. The Hoyer lift is a hydraulic lift used to transfer a patient from one place to another, for example, from a treatment table to a wheelchair. First, the primary freshman PTA instructor helped each candidate to become familiar with the lift and demonstrated how it operated. The candidate, with the assistance of the instructor, then transferred a person from a treatment table to a wheelchair by using the lift. Finally, each candidate was asked to demonstrate competency by performing the transfer independent of the instructor. This independent performance was evaluated by three members of the staff and the Project Coordinator.

This experience encompassed the majority of the special criteria items. It evaluated the candidate's manual coordination, ability to learn rapidly, ability to retain information, and ability to relate to others. More importantly, it evaluated the candidate's indoor mobility skills, object perception, and spatial localization. The candidates were required to move around the room fluidly, an ability that was felt to affect patient acceptance. The candidates had to position the wheelchair and lift in the proper spatial configuration to achieve the desired effect of placing the patient into the wheelchair. The candidates had to be aware of the position of the patient as the patient swung through the air.

The Occupational Therapy Assistant specific skills evaluation consisted of assessing the candidate's ability to use hand and power tools and the ability to learn and teach a craft. The hand and power tool segment of this evaluation began with the shop teacher at Minneapolis Society for the Blind instructing the candidates in the use of the power and hand tools used during the OTA evaluation. Then the OTA teacher outlined the steps to be accomplished to get the desired product. The candidates were then told to produce the product. Performance was evaluated by the shop teacher, an OTA staff member, and the Project Coordinator.

The craft segment of the OTA evaluation consisted of learning and instructing the double cordova stitch in leather lacing. In the OTA curriculum students have to learn a variety of crafts, but more importantly they have to develop an ability to teach those crafts. This was the basis for including these activities in the evaluation. This segment began by having the Minneapolis Society for the Blind Occupational Therapist instruct each candidate on how to produce a double cordova. After a sufficient practice period, the candidates were asked to instruct an OTA staff member who was simulating the role of a typical OTA patient. Their performance was then evaluated by the staff.

The OTA specific skills evaluation was directly related to several of the items listed in the special selection criteria. Good manual coordination, ability to grasp ideas, ability to retain information, and the ability to relate to others were required to complete the evaluative tasks. Object perception and spatial localization were also required in many of the evaluative tasks.

To evaluate indoor orientation and mobility skills, we utilized the performance test created by the Royal National Institute for the Blind School of Physiotherapy. It was thought that the Royal National Institute's record in training blind Physiotherapists for the past sixty years would bring validity and reliability to the test.

An orientation and mobility teacher was subsequently hired to combine a new indoor O and M segment to our former O and M performance evaluation, (which mainly consisted of outside O and M exercises), and to administer the combined test to our program candidates. As he administered the test, he was also asked to evaluate the validity of the test as selection criteria for allied health occupations.

The participation of the staff at SMJC in evaluation eliminated the factor called "fear of the unknown" and made them more comfortable in the teaching relationship. Overall, the evaluation made significant differentiations in the skill levels of the different candidates.

SPECIAL EVALUATION: Common Evaluation Forms

This evaluation tested those skills, identified with assistance of the American Foundation for the Blind, in which all visually impaired students in a post secondary education setting should demonstrate proficiency.

COMMUNICATION EVALUATION

Name____

Primary means of communication:

Typing

Speed:

Number of errors:

Braille or large print

Reading --

1. Comprehension

2. Speed

Writing --

1. Speed

2. Number of errors

____
Teacher

OBSERVATIONS

(Evaluation for previous cane travel)

A. SIDEWALK TRAVEL

1. Pace/Ease of movement:
2. Gait:
3. Posture:
4. Negotiating irregular sidewalks:
5. Response to inclines and declines:
6. Response to cane sticking:
7. Coping with driveways, parking lots, open areas:
8. Negotiating obstacles in path:
9. Detection and response to curbs:
10. Ability to travel along a residential sidewalk:
11. Locating intersecting sidewalks:
12. Ability to follow a shoreline:
13. Ability to take a line of direction from a shoreline:
14. Perception of grade at blended curbs:

B. STREET CROSSINGS -- UNLIGHTED

1. Alignment in absence of traffic:
2. Alignment in presence of traffic:
3. Use of parallel and perpendicular traffic in aligning for street crossings:
4. Ability to use shoreline for alignment:
5. Ability to correct for veering into parallel street:
6. Ability to correct for veering into perpendicular street:
7. Location of up-curb and clearing:

C. STREET CROSSING -- LIGHTED

1. Ability to use traffic for alignment:
2. Cane position:
3. Clearance:
4. Location of curb:
5. Recovery techniques:
6. Timing:

D. TRAVEL CONCEPTS

1. Knowledge of parallel:
2. Knowledge of perpendicular:
3. Concept of a block:
4. Knowledge of types of intersections:
5. Knowledge of traffic controls at an intersection:
6. Knowledge of traffic patterns:
7. Use of sun in orienting oneself:

SPECIAL EVALUATION: Specific Skills Evaluation

A specific skills evaluation for both the OTA and PTA programs was developed from the cirteria identified by the program directors and the American Foundation for the Blind.

All of the candidates were tested in either the OTA Specific Skills Evaluation or the PTA Specific Skills Evaluation.

7/25/77-7/26/77

Performance Interview of Applicants to PTA Program - Blind Project

This experience should test the applicants'
1. ability to grasp ideas and methods rapidly
2. manual coordination
3. ability to retain information
4. object perception and spatial localization
5. ability to perceive multiple stimuli
6. ability to relate to patients and teachers

The experience will involve the following:
1. Getting the individual familiar with the Hoyer lift
2. Showing the individual how the Hoyer lift works
3. Having the individual transfer a person from a treatment table to a wheelchair using a Hoyer lift

The performance of each applicant will be evaluated by the following persons:
1. Lorna Anderson - Primary Freshman Instructor in the PTA Program
2. Jinniece Anderson - Physical Therapist Assistant and former Faculty Assistant in the PTA Program
3. Barbara Baum - Program Director of the PTA Program
4. Jim Sevdy - Coordinator of Blind Project

The attached form will be used as the evaluation tool for each applicant.

Each applicant will be expected to:
1. Familiarize him/herself with the Hoyer lift after receiving instruction on its use/operation and before transferring the person from the treatment table to a wheelchair
2. Tell the "patient" what s/he is going to do. Place the sling under the patient.
3. Open the lift so its legs are as far apart as possible (wide base of support)
4. Hook the Hoyer chains into the sling, making sure that the hooks face out/away from the patient
5. Pump the lift up until it begins to clear the treatment table
6. Recheck the hooks/chains
7. Continue pumping until the patient is well off the treatment table
8. Slowly move the lift and patient over to the wheelchair
9. Slowly lower the patient into the wheelchair
10. Recheck alignment to make sure the patient will be well into the chair
11. Continue to lower the lift until the patient is in the wheelchair
12. Unhook the chains from the sling
13. Readjust the patient in the wheelchair if necessary

PTA Evaluation -- continued

E = Exceptional
"S" = Satisfactory
"U" = Unsatisfactory

Applicant

Evaluator

Performance Evaluation of Applicants to PTA Program - Blind Project

Task: Transfer a "patient" from a treatment table to a wheelchair using a Hoyer lift.

	E	S	U	Comments
Ability to grasp ideas and methods rapidly				
Manual coordination				
Ability to retain information				
Object perception and spatial localization				
Ability to perceive multiple stimuli				
Ability to relate to patients and teachers				
Asked appropriate questions in regard to treatment				
Introduction to "patient"				
Safety precautions as appropriate (position of w/c, pt., lift, sling, chains)				
Instructions (order, clarity, conciseness)				
Technique (proper sequencing, use of body mechanics)				
Alignment of patient in w/c				
Communication with patient				
Communication with teacher				
Overall Performance				

PERFORMANCE EVALUATION OF APPLICANT TO OTA PROGRAM

(Blind Project)

Task: Learning and instructing double cordova stitch in leather lacing.

I. Objectives:

   A. Evaluate ability to understand and follow directions for a difficult craft procedure.

   B. Evaluate understanding of spatial concepts.

   C. Use of compensatory senses and skills.

   D. Ability to relate to others.

   E. Ability to instruct a sighted person.

II. Steps in evaluation session

   A. Forty-five minute instruction session.

      1. Instruction in how to start and continue lacing with the double cordova stitch.

      2. Practice and further instruction if needed.

   B. Forty-five minute teaching session.

      1. Introduction to "patient".

      2. Teach "patient" lacing procedure.

      3. Allow "patient" practice and follow up.

OTA Evaluation -- continued

"E" - Exceptional
"S" - Satisfactory
"U" - Unsatisfactory

Applicant: ______________________

Evaluator: ______________________

Performance Evaluation of Applicant to OTA Program - Blind Project

Task: Learning and instructing double cordova stitch in leather lacing.

	E	S	U	Comments
Ability to understand directions. (Requires good grasp of spatial concepts.)				
Ability to follow directions. (Requires fine finger dexterity and good use of tactile sensation.)				
Ability to retain information.				
Ability to help "patient" feel relaxed and good about self.				
Ability to organize self and materials.				
Use of clear, concise, and correct terminology.				
Answers questions appropriately.				
Follows up on patient's work and can judge if done correctly.				

Further comments: ______________________

MACHINES

1. Band Saw
2. Belt Sander
3. Drill Press

HAND TOOLS

1. Plane
2. Combination Square
3. Click-O-Matic
4. Hand Drill
5. 1/4" Drill Bit
6. 1/2" Drill Bit
7. Hammer
8. Center Punch
9. Screw Pilot Hole Bit
10. Screw Driver

SUPPLIES

1. Glue
2. 3 - 1-1/2" Finishing Nails
3. 2 - 1/4" #8 Flat Head Wood Screws
4. Board - 3/4" x 7-3/4" x 10-1/2"

I. Cut a 2-1/4" strip off the width of the board using the band saw. The band saw is already set for the proper width. Be sure to keep the board tight against the guide strip.
   - A. Face mask must be worn
   - B. Procedure to adjust height
   - C. How to turn on and off
   - D. Where to place hands

II. Plane the edges that were cut on the band saw flat. Use the vise to hold the pieces as you plane them.

III. Using the belt sander bevel two corners on the unfinished edges of the larger board.
   - A. Face mask
   - B. Explain how to position the board
   - C. How to turn on and off

IV. Using a hammer, center punch, combination square and/or click-O-matic, make marks for holes 2" in from each end and 2" in from the side that has the two beveled corners.

V. Holding the piece of board in a vise, drill one of the holes you have marked, using the hand drill and a 1/4" drill bit.
   - A. Installing the bit
   - B. Using the drill
   - C. Removing the bit

VI. Drill the second hole using the drill press and a 1/2" drill bit.
   - A. Face mask
   - B. Installing the bit
   - C. How to lower the bit
   - D. How to line up the hole
   - E. Removing the bit

VII. Place the narrower piece of wood in the vise with the planed edge up.

Apply a thin layer of glue along this edge.

Nail the two boards together with 3 nails. Do this by aligning the plane edge of the large board with the face of the smaller board. (Show sample.) Place a nail about 1-1/2" in from each and one approximately in the middle.

VIII. Place the screw pilot hole bit in the hand drill. Drill two holes approximately centered between the nails. These holes will be for screws that will hold the boards together. Be sure the pilot bit goes all the way in.

Drive the screws in flush using a screwdriver.

OTA Evaluation -- continued

APPLICANT________________________

EVALUATOR________________________

	Evaluation	Comments
Ability to grasp ideas and methods easily		
Manual coordination		
Ability to follow oral directions		
Orientation, spatial relationships		
Asked appropriate questions		
Worked safely		

SPECIAL EVALUATION: Orientation and Mobility Test for Occupational Therapy Assistant and Physical Therapist Assistant Candidates

NAME________________________ DATE______________ HOUR______________

Orientation and Mobility test for Occupational and Physical Therapy Assistants
Areas of Concern, for Assessment.

I. Outside Orientation

A. Define a "multiple crossing"
Satisfactory______ Unsatisfactory______

B. Explain the safest way of making a multiple crossing where there is one-way traffic.
Satisfactory______ Unsatisfactory______

C. Define "Shoreline" and how it is used.
Satisfactory______ Unsatisfactory______

D. Give examples of how a person can obtain directions in familiar areas.
Satisfactory______ Unsatisfactory______

E. Give examples of how a person can obtain directions in unfamiliar areas.
Satisfactory______ Unsatisfactory______

II. Practical Demonstration of Orientation and Mobility Skills

A. Crossing a street with a traffic light
Satisfactory______ Unsatisfactory______

B. Crossing a street in a residential area - e.g., to go to school/work in A.M.
Satisfactory______ Unsatisfactory______

C. Traveling on sidewalk.
Zigzags____________
Veers____________
About Average________
Very Good__________

D. Analyzing a corner from the kind traffic control

1. Completely controlled
Satisfactory______ Unsatisfactory______

2. Stop sign for less travelled street
Satisfactory______ Unsatisfactory______

3. Four-way stop without lights
Satisfactory______ Unsatisfactory______

4. Controlled traffic by automatic lights
Satisfactory______ Unsatisfactory______

III. Candidates own evaluation of her/his O&M skills

IV. Orientation and Mobility-Specialist's evaluation of skills

A. Unskilled______

B. Skilled______

C. Has poor techniques______

D. Has good technique______

E. Uses travel cues well Yes______ No______

F. Knows directions well______ Not well______

V. Describe what one should do if

A. One has to learn a new work station
Satisfactory______ Unsatisfactory______

B. One has moved to a new apartment in a different part of town
Satisfactory______ Unsatisfactory______

C. One finds out on way home from school/work that a new construction site will be in the way for the summer
Satisfactory______ Unsatisfactory______

D. for two days
Satisfactory______ Unsatisfactory______

IV. Inside Orientation and Mobility

A. Seating oneself
Satisfactory______ Unsatisfactory______

B. Finding a dropped coin (quarter)
Satisfactory______ Unsatisfactory______

C. Judging size of a room (3 sizes)
Satisfactory______ Unsatisfactory______
Satisfactory______ Unsatisfactory______
Satisfactory______ Unsatisfactory______

D. Have candidate place rooms in order 1 2 3
Correct______ Incorrect______

PHASE II

This test applies only to candidates who are totally blind or who have very little sight. It should be completed by an orientation and mobility specialist.

I. Method of Mobility used:

A. Long Cane________
B. Short Cane________
C. Guide Dog________
D. Guide________
E. Other Method, give details________________________________
____

II. Select the most descriptive way candidate uses cane

A. Passively______
B. Tapping________
C. Sweeping_______

III. How does the Candidate travel unaided over a known route of a quarter of mile (3 blocks).

Time Test
A. Time taken__________
B. Number of unnecessary____________
C. Number of objects ____________________
D. Number of times Candidate needed assistance.______________

IV. How does the Candidate Walk over an unknown route?

Time Test
A. Time taken for 3 blocks__________
B. Wash this achieved with confidence Yes______ No______
C. Wash this achieved with safety Yes______ No______
D. Was this achieved with undue mental stress Yes_____ No_____

V. Public Transportation

A. Candidate uses bus
With______ Without______assistance

B. Candidate uses train
With______ Without______assistance

VI. How does the Candidate move about in a known room?

A. Good______ B. Average______
C. Fair______ D. Poor______

VII. How does the Candidate move about in an unknown room?

A. Good______ B. Average______
C. Fair______ D. Poor______

VIII. Posture

A. Does Candidate stand upright Yes______ No______
B. Does Candidate walk with an upright bearing Yes______ No______
C. Does Candidate have a blind manner Yes______ No______
D. Does Candidate tend to walk with arms outstretched when not using cane? Yes______ No______
E. Does Candidate have any "blindism" Yes______ No______

IX. Gait (Without Cane) (Mark those applicable) Candidate walks with

A. An even Gait______
B. An uneven Gait______
C. On a broad base______
D. On a narrow base______
E. With a shuffle______
F. With a jerky manner______

X. Is the Candidate in the habit of traveling over a known route
independently Yes______ No______
or with assistance Yes______ No______

XI. Does the Candidate have a good positional sense of

A. Her/His own position in space Yes______ No______

B. Of objects or hazards encountered______or avoided______

XII. Candidate can describe accurately a room following a period of 5
minutes orientation Yes______ No______

SPECIAL EVALUATION: Specific Orientation Tests

SPECIFIC ORIENTATION TESTS

Preparation

The following tests should take place in a large room of approximately 1,000 square feet in size (a gymnasium is ideal). The following apparatus is required: Chalk, tape measure, a stop watch, four markers (bean bags or small skittles).

A chalk line is drawn along the length of the center of the room. The line is divided into three equal sections. The divisions are marked by the letters A, B, C, and D (see diagram).

A second line is drawn across the width of the room, approximately 15 feet long and parallel to the end wall. These points are marked E and F and a third point, G, is marked at a right angle to this line and equally distant from point F (see diagram).

Time Test

Test 14: The candidate is walked along the line A to D and each division is indicated to them. The candidate is then given four markers and is instructed to place them at the points marked A, B, C, and D.

Result:

a) How many inches is the marker away from the points?

A__________
B__________
C__________
D__________

b) How long did it take to complete this test?

____

Test 15: The candidate is taken to point D on the line and is instructed to collect the markers, one at a time, and place them at point A. (Marker at A is collected by O&M Sp. and given to candidates)

Result:

a) How many inches are the markers away from point A?

____

b) How long did it take to complete this test?

____

Test 16: Walk the candidate along the base of the line E to F. At point F give the candidate a marker and instruct him/her to place it at point G which is at a right angle to the line E to F and which is the same distance away.

Result:

a) How many inches is the marker away from point G?

____

Test 16: (Continued)

b) How long did it take to complete this test?

____

Test 17: The candidate is taken to point G and is instructed to move directly to point E, where a marker should be placed.

Result:

a) How many inches is the marker away from point E?

____

b) How long did it take to complete this test?

____

Test 18: The candidate is taken back to point A and is instructed to find the door of the room we came in.

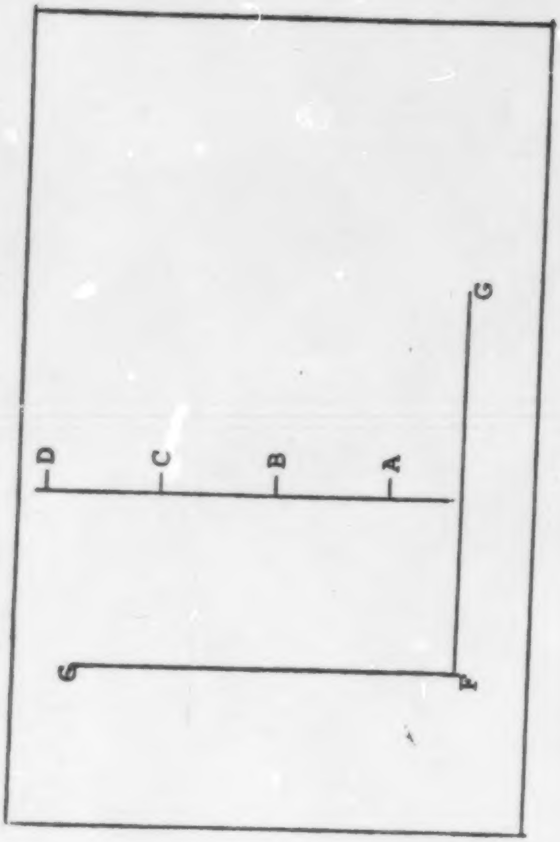
Result:

a) How many course deviations were made?

____

b) How long did it take to reach the door?

____


D
C
B
A
G
G
F

SPECIAL EVALUATION: Pre-Selection Tests for Manual Dexterity, Proprioception and Stereognosis

PRE-SELECTION TESTS FOR MANUAL DEXTERITY, PROPRIOCEPTION AND STEREOGNOSIS

Preparation

The following items are required: A pair of scissors, a stop watch, a tape measure, pieces of thin card of braille paper (the size of which is known), six wooden building bricks (as used by young children) and a "Posting Box" made by Kiddiecraft, No. 2-290.

For Tests 19-22: the candidate sits at a table with the person carrying out the tests. If the candidate has some residual vision, he is asked to close his eyes or to be blindfolded.

Test 19: The candidate is given the six plastic shapes of the "Posting Box" to handle for 15 seconds. The container is then placed before him and he is asked to post the shapes into the container as quickly as he can. The time he takes to do this is recorded. The shapes are then removed and handed back to the candidate who is asked to repeat posting the shapes into the container. The time is again recorded.

Result:

a) Time taken at first attempt____________

b) Time taken at second attempt____________

Test 20: The length and width of a piece of card or braille paper is noted. The card is then handed to the candidate to measure.

Actual length and width__________________

Result: Candidate's measurement of card__________________

Test 21: The candidate is asked to cut the piece of card into four equal pieces with a pair of scissors.

Result:

The four pieces are compared and kept.

Note how well the candidate can use the scissors________________________

Test 22: Six wooden building cubes are placed before the candidate who is asked to pile them one on top of another to make a column of six. This is first done with one hand and then with the other. The hand not in use should be held behind the back.

Result: Did the candidate manage it----

a) With the left hand?________________

b) With the right hand?________________

Test 25: The candidate is asked to stand, clear of the table. He is then asked to place his right arm straight forward and parallel with the floor and at the same time place his left arm pointing to his left also parallel with the floor and at right-angles with his right arm. He is now asked to change so that his right arm is pointing to his right and parallel to the floor and at the same time place his left arm vertically upwards so that it points towards the ceiling and is at right-angles with his right arm. The accuracy of these positions is carefully watched and recorded.

Result:

a) Very good____________
b) Good_________________
c) Fair_________________
d) Poor_________________
e) Very poor____________

SPECIAL EVALUATION: Evaluation Report on Orientation and Mobility Assessment

REPORT ON ORIENTATION AND MOBILITY EVALUATION
At St. Mary's Junior College
8-1-79

Evaluation of testing procedure and test for Orientation and Mobility.

The first part of this test covers the kind of material that a trainee in Orientation and Mobility covers in a training program. All candidates should do well in this portion if they are in their last phases of rehabilitation training and about to make a vocational training decision. The counselors would usually be quite close to correct in their judgment that their client has most of the Orientation and Mobility skills, and they could easily provide a few sessions of training to familiarize their client to a new setting.

The question of a candidate evaluating her/his own skill is significant if the person is far from the Orientation and Mobility specialist's evaluation. If the client evaluates skills higher than O & M specialists, and if the client has very little or no vision, this is very serious and should be a cue to evaluator that this client needs to be checked on everything, rather than asking on occasion if a client can do something without having a performance test.

If a client has not worked in work settings, you cannot expect her/him to answer well what they should do in a new work setting. However, the answer should include something on safety, or the answer cannot be satisfactory. All four questions should have safety as one aspect in the explanation of what to do if.........

If a person is able to get to St. Mary's College on her/his own, even if they cased it with a helpful parent the day before, that alone should be reassuring even if a person doesn't do a polished performance. These candidates are under a great deal of tension, even though they are able to mask it. Part of the O & M training is devoted to performing in such a way that people don't reject them before the evaluation.

Time taken for 3 blocks over unknown route, and its subsequent answers is a test that everyone can be judged on fairly. Here the speed should be at a level that would be considered safe by almost anyone. The variation was from 5 minutes to 9 minutes for 9 people - some with vision for travel, so a cane wasn't necessary. If this performance goes well, again one can be reassured in spite of some other poor performances on other items.

The closest training that would help people in the new tests added this year relate to judging sizes of rooms. The training in Orientation and Mobility does not include many things that tests may be designed to pick up.

The tests checking a person's ability to estimate where a line would end, or to divide a line with bean bag markers, requires an understanding of the size of a room one would be in, and an ability to walk straight lines and also pick up input on changes that are happening while one is doing something else. The variation in time was from 8 to 70 seconds. Here I asked people with vision to do the test so as to get a comparison on how long one might expect it to take. If one compares this ability to what is commonly called depth perception, then one can understand that if people do not do well on a depth perception test, they cannot do well on tasks requiring depth perception. An example for sighted people is landing a small airplane without depth perception. The individual doesn't know when the plane is just about to touch the ground. A person with very poor depth perception may think the plane is about to touch when it is still 12 feet or 20 feet off the ground. No amount of training can correct this. If a person performs these tests well, then he is likely to know where the walls are in the room, how far he is from objects and how to skirt around them. When new objects appear he also senses it and does not stumble over the object - whether it's a wheelchair or a fixed object. Each of these performances is measuring these skills (often referred to as innate skills) and if we tested enough people and determined the minimum score of those who got through, we would then have developed a reliable and valid test. The performance of such tests as placing six blocks into a box are similar to the act of a person using a cane to find the doorknob of a door or the door handle on a car. If a person can recognize when the cane hits the knob or handle, and then reaches directly for the knob or handle, he has the ability also to reach for objects on a table that he will use in his work when any part of his body has recently touched any part of the table.

After having done certain performances, one is now told to go out the door she/he came in, one would then draw on a kind of a "memory" bank that should have stored in it many things that can be drawn on if it is necessary. If a person had been unaware of all directions for one whole hour, but knew the elevators were only in the south side of the building, and if you were now told to go out the north door, and you heard the elevator, you would put the elevator behind you, go to the north of the building, and upon arriving near the north side of the building, you would then soon pick up cues as to the door location, e. g., door banging, or someone greeting someone with a comment about outside conditions, etc. During this interim there is no question about east and west if you know south.

This test, as an experiment for this year, suggests to me that it has practically all the elements needed to make this into a good test. Minor changes can be made for ease in administering and scoring. I would feel that an Orientation and Mobility specialist probably should observe what ever might be considered one or two routine days of both physical and occupational therapy in order not to miss some things that are not obvious to me now.

I can imagine, for example, that in some stages of work as a physical therapist, the therapist would like to observe the patient's progress or improvement in walking. At this moment, I do not know how the individual would gather that information, nor do I have a suggestion on how he would gather that informaminimum score of those who got through, we would then have developed a reliable and valid test. The performance of such tests as placing six blocks into a box are similar to the act of a person using a cane to find the doorknob of a door or the door handle on a car. If a person can recognize when the cane hits the knob or handle, and then reaches directly for the knob or handle, he has the ability also to reach for objects on a table that he will use in his work when any part of his body has recently touched any part of the table.

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I can imagine, for example, that in some stages of work as a physical therapist, the therapist would like to observe the patient's progress or improvement in walking. At this moment, I do not know how the individual would gather that information, nor do I have a suggestion on how he would gather that information if it were relevant. However, there may be things I miss that the people at the Royal National Institute know from their long years of experience, but do not readily get into the written material. This year the results are that the person with the lowest rank order also got the lowest score on this test, a test score that should be well below what would eventually be the cut-off point.

A short conference with the test making specialist may be worth while before deciding on that route.

It was a pleasure to be involved with this project this year.

William B. Otterness

William B. Otterness

Orientation and Mobility
Specialist

APPENDIX D

PHYSICAL THERAPIST ASSISTANT PROGRAM

1. Program Director's Report
2. Sophomore Course Outline and Ambulation Training
3. Equipment and modifications

PHYSICAL THERAPIST ASSISTANT PROGRAM: Program Director's Report

February 25, 1980

Since the last report for the VIS Project, two visually impaired students (one legally blind and one totally blind) have graduated from the Physical Therapist Assistant Program in May 1979. One student was immediately employed at a rehabilitation oriented nursing home. The other student is currently seeking employment. A third student who was in the PTA Program for 2 years did not graduate as planned. This student was unable to successfully complete the final clinical affiliation. He was offered a second opportunity to pass the clinical affiliation, but he chose not to do so. I feel that a combination of factors both related and unrelated to his blindness was responsible for this. However, I do feel this student would have been able to pass the first attempt of the clinical affiliation if he had not been totally blind.

During the summer of 1979, the PTA faculty was again involved in the evaluation process prior to accepting students into the Program. The PTA component was essentially the same with the addition of a new technique for testing mobility skills. This was added because it is becoming increasingly apparent that blind students must have excellent mobility skills to function in a large, busy physical therapy clinic.

During the academic year 1979-80, there have been no major curriculum changes or equipment additions for the visually impaired students. To date both the freshmen and sophomore students have successfully completed the required work. One visually impaired student chose to leave the PTA Program for reasons other than his visual impairment.

It is also apparent that the visually impaired freshmen students do not have the exceptional academic skills and maturity of previous visually impaired students. They have required more help in terms of counseling and tutoring than previous students. The VIS Project Coordinator has provided much of this assistance.

However, I do anticipate that the two freshmen students will be able to successfully complete the freshmen academic work.

The two sophomore visually impaired students have progressed very well thus far. They have passed a major clinical experience without problems. I anticipate that they will both do well in their final quarter of clinical experience and classroom work to graduate in May 1980.

The PTA faculty members remain supportive of visually impaired students entering the PTA Program and the field of physical therapy. We realize that our experience with teaching visually impaired students is limited and we hope to broaden our own understanding and skills as we continue to work with the VIS Project.

PHYSICAL THERAPIST ASSISTANT PROGRAM: Sophomore Course Outline and Ambulation Training

This Appendix includes a course outline for the sophomore fall quarter PTA course and a report of the experiences of the primary sophomore PTA program instructor in teaching ambulation techniques to her totally blind students. We have highlighted the experiences in ambulation training because of our initial concerns over the teaching of these techniques. Clinical supervisors also expressed grave doubts about a blind PTA's ability to perform these techniques.

PTA 325 COURSE OUTLINE

WEEK I September 11-15
Lecture: Introduction to PTA 325
Introduction to Therapeutic Exercise
Physiology of Exercise
Muscle Strength and Strengthening Exercises
Introduction to Strengthening Exercises
Lab: Review of mobility exercises
Active exercises for mobility
Self assistive range of motion
Anatomy and physiology of skeletal muscle

WEEK II September 18-22
Lecture: Basic mechanical principles as related to therapeutic exercise
TEST
Lab: Muscle testing
Manual resistive exercises
Isometrics
PRE's and RRE's for all equipment
Pulleys for strengthening

WEEK III September 25-59
Lecture: Coordination
Review of nervous system
Reflexes and VIDEO
Lab: Pulleys for strengthening
Frenkel's exercises
Normal developmental sequence
Clinical situations for all strengthening exercises

WEEK IV October 2-6
Lecture: Pathological disturbances of neuromuscular system and implications for therapeutic exercise
Normal physical aspects of aging
FILM--Bobath technique and review of reflexes
TEST
Lab: Facilitation techniques
Reflexes
Endurance exercises

WEEK V October 9-13
Lecture: Review of connective tissue
Introduction to stretching
Goniometry
Lab: Stretching techniques
Godman's exercises

WEEK VI October 16-20
Lecture: Buerger Allen exercises
Diaphragmatic breathing
Relaxation exercises
Patients with sudden illness

WEEK VI October 16-20
Lab: Goniometry
Complete therapeutic exercise skill tests
Buerger-Allen exercises
Relaxation exercises

WEEK VII October 23-27
Lecture: Midquarter exam
Normal gait
Gait deviations
Lab: Introduction to ambulation
Ambulation aids and accessories
Measurement of ambulation aides
Preambulation programs--mat exercises and parallel bar drills
Crutch gaits--3 point, 3+1, 4 point, 2 point

WEEK VIII October 31 - November 3
Lecture: Muscle demands of crutch walking
Safety in ambulation
Discussion of gait deviation assignment
TEST
Special considerations when ambulating amputee, hemiplegic, paraplegic, arthritic
Lab: Use of walkers
Cane gaits
Paraplegic gaits
Stairs and ramps

WEEK IX November 6-10 Simulation
Lecture: Discussion of weekend experience on crutches
Sensory deficits
Cost analysis of ambulation aides
Lab: Remaining ambulation ADL's
Sensory deficit lab
Video tapes

WEEK X November 13-17
Lecture: Normal posture
Posture deviations
TEST
Lab: Posture evaluation

WEEK XI November 20-22
Lecture: FINAL EXAM
Lab: Complete ambulation skill tests

AMBULATION TRAINING

During the fall quarter of 1978, two visually impaired students (totally blind) successfully completed the requirements for the ambulation training unit of PTA 325. The following paragraphs will include (1) a description of the ambulation training unit, (2) adaptations necessary for the blind students, and (3) their progress to date.

The ambulation unit involves five weeks of lecture/classroom lab time. The course content includes background information important to the understanding of ambulation training and skills used in ambulation training. (See attached sheet Weeks VII-XI). Much of the background information is presented in a lecture format. During lab sessions, ambulation training skills are demonstrated by the instructor after which the students have supervised practice. In addition, the students must successfully demonstrate the ambulation training skills in a "skill test" format during which they teach a "Patient" (classmate) the skill while the instructor observes. (See attached sheet). The students have written tests scheduled throughout the quarter and a lab practical which sample tests all the skills learned during the quarter. This lab practical is scheduled early in the winter quarter.

Instructional adaptations for the visually impaired were minor; however, it was necessary for the students to find alternate ways to monitor the "patient's" ambulation. As previously mentioned, Mr. Iltan's suggestions and demonstrations involving ambulation skills provided many useful alternatives. Following this, the visually impaired students and instructors used a problem solving approach to discover ways to monitor the "patient's" gait while protecting the "patient" from safety hazards. Examples of safety hazards are falling or bearing weight on a fractured lower extremity. This process did involve additional one-to-one time between students and instructor along with much practice time on the student's part. Some of the techniques that the visually impaired students used to monitor the "patient's" gait included:

(1) Using hands and feet to generally feel for crutch/cane placement, length of steps, gait pattern, etc.

(2) Ambulating in direct contact with the patient so that the student could use his/her lower extremities to monitor "patient's" gait.

(3) Palpitating the upper extremity muscles (primarily triceps) and hip muscles (primarily gluteus medius) to detect weight bearing.

(4) Using a safety belt to prevent falling.

(5) Staying in complete control of the treatment situation. (this included checking out the physical surroundings before the treatment and controlling of the "patient's" moves by explicit verbal directions.

The visually impaired students demonstrated all ambulation skills adequately in the lab setting and kept up with a very rapid instructional pace. The instructors attempted to simulate clinical conditions during skill testing. However, the instructors feel that applying ambulation skills in the clinical setting will be the crucial test for the visually impaired students. As of this time, the students have been on winter quarter clinicals for only one week, and it is too soon to make any comments on their performance.

PTA 219 Fall 1978

Name ______________________________

Skill Testing Check Sheet
Ambulation

One of the following:

	Date	First Trial	Second Trial	Notes
1. 2 point or 4 point gait on level ground.				
2. 3 point or 3+1 gait using either crutches or walker on level ground.				
3. Beginner or advanced cane gait on level ground.				
4. Drag to, swing to, or swing through gait on level ground.				
5. In and out of w/c for paraplegic patient with crutches.				
6. In and out of standard chair for one of the following: NWB patient with crutches, NWB patient with walker.				
7. In and out of standard chair for hemiplegic patient.				
8. Up and down stairs with or without rails for hemiplegic patient.				
9. Up and down stairs with or without rails for NWB patient.				
10. Up and down ramps for one of the following: NWB gait, hemiplegic gait.				

PHYSICAL THERAPIST ASSISTANT PROGRAM: Equipment and Modifications

The equipment used in the freshman year of the PTA program is listed with the required modifications.

ST. MARY'S JUNIOR COLLEGE
Minneapolis - Minnesota

Equipment Used in the Freshman Year of the PTA Program

1. Hydrocollator hot packs -- Hot packs are kept in a thermostatically controlled container of water at 176°. No modification needed. Care should be used when removing them from the container and in applying packs to patients.
2. Paraffin wax -- Need braille thermometer to determine temperature of wax.
3. Hydrotherapy -- Whirlpool-contrast bath -- determine temperature of water by use of braille thermometer.
4. Hoyer lift -- No modification -- just extreme care in operation.
5. Infrared -- Need braille tape measure to determine distance between patient and source -- 20-minute exposure. Care to position patient at a right angle to source.
6. Body baker -- Infrared. No modifications.
7. Ultra violet -- Cold quartz -- hot quartz. Time and distance critical. Need very accurate braille timer and distance measurer.
8. Microwave diathermy -- 3 machines. Have to learn correct operating procedure of light probe to detect ready lights. Gauges are important and must be read accurately.
9. Siemens self-tuning shortwave diathermy -- Have to learn correct operating procedures. Need light probe to determine when properly tuned -- will flash blue lights.
10. Shortwave diathermy -- 2 machines: Burdick MF/490 and Birtcher crystal band master. Both have gauges that must be used; both are tuned to the highest point before needle falls back. A modification is required.
11. Ultra sound -- 2 machines: Burdick UT/420 and Birtcher model 115/Megason XV. Both have gauges that read in watts per sq. cm. Since they have to be read accurately, a modification has to be worked out.
12. Tilt table -- Dial has to be marked.
13. True Trac -- Dials have to be marked.
14. Sphygmomanometer -- Need a modified unit that can be used by a totally blind individual.
15. Clinical thermometer -- Need a braille clinical thermometer.

APPENDIX E

OCCUPATIONAL THERAPY ASSISTANT PROGRAM

1. Program Faculty Reports
2. Sophomore course outline and VIS learning experiences

OCCUPATIONAL THERAPY ASSISTANT PROGRAM: Program Faculty Reports

ST. MARY'S JUNIOR COLLEGE
2500 South Sixth Street
Minneapolis, Minnesota 55454
(612) 332-5521

February 27, 1980

Report of Blind Project, Freshman Year, OTA Program

Four VIS students were enrolled in the freshman class of the OTA program during fall quarter of 1979. Two were totally blind and two were legally blind. The legally blind students did not require any adaptations except extra time for learning activities, test-taking, and filling out forms in class. One legally blind student was counseled out of the program at the end of fall quarter because of inadequate interpersonal and self care skills. She was replaced during winter and spring quarters by another totally blind student who had dropped out the previous year. Adaptations for the totally blind students included the following:

1. All cupboards and supply shelves were Brailled.

2. Instructional tapes for craft activities were revised so that they were more audio-oriented. This involved eliminating such statements as "notice how---" and adding more descriptive directions.

3. Learning boards were made for the first craft unit which included copper tooling, leather lacing, leather tooling, leather belt stamping, porcelain tile mosaic and poster making. These were in the form of movable posters on which all required tools and materials were mounted and identified in Braille. Each step was then illustrated with actual samples and explained in Braille. These were hung in a special carrel where they could easily be removed and handled. They proved to be an invaluable help in encouraging these students to learn the craft independently.

4. In Weaving and needlecraft, the same adaptations developed last year were used, in addition to more "hands on" instruction, as, for example, while the rest of the class was viewing slide instructions as a group, an additional staff person was helping each blind student handle the equipment as it was being described by the instructor. Some new forms were added including raised treadling and threading drafts. Brailled self-tests for knitting and crocheting, and permanent embossed zipper instructions. Some adaptations originated by the sophomore student tutor which proved especially helpful were sewing cards with holes and lines provided for practicing embroidery stitches and the use of masking tape to firm up the edges of fabric for zipper insertion.

5. For Art and Design, raised permanent forms were made to illustrate linear perspective and enlarging designs. Other adaptations which were simple but which helped in instruction of purely visual activities were such things as placing pins in the paper to outline a shape to draw or paint around.

Classroom adaptations were the same as used previously, with the addition of some Brailled check lists for self and client assessment. Faculty assistants worked individually with blind students during simulation experiences in class which required filling out assessment forms, incident reports, etc. Some activities, such as retrieving information from medical records, could be managed by seeing that the blind students had sighted partners.

Totally blind students have not yet had their Level II Field Experience. Comments from the Level I experience were that supervising staff felt that they were spending a disproportinate amount of time with the blind students, who were still being left out of some activities. It was found in this short experience that they tended to depend on sighted students to complete many of their assigned tasks.

Problems which we still need to work on are dependency and lack of initiative on the part of these students, their tendency to isolate themselves from other classmates, and the amount of staff time required, which has been averaging from 6 to 12 hours a week for each faculty assistant. This was especially true after two of the sophomores were unable to finish out the quarter as tutors due to personality and scheduling conflicts.

Submitted by Betty Bragg, Instructor with consultation from
Sr. Karen Hophan, Anne Stone, faculty assistants.

Sophomore VIS Adaptations

Two VIS students were enrolled in the course. One had a congenital visual dysfunction. She could read print but needed black on white tests, handouts, and heavily darkened lines on designs, charts, etc. She functioned essentially as the sighted students. Because her visual dysfunction involved a severe nystagmus, she seemed to be very shy and lacked self esteem. Her need for a nurturing field work supervisor was evident and her placement for practicum was carefully considered. Her field work mid-term evaluation was a bit low, particularly in reference to assertiveness. She is working on this behavior and there is evidence of improvement not only at the clinical site but also at SMJC.

The rest of this report is devoted to the impact of the first totally blind sophomore student to the course. The adaptations will be discussed in three categories: classroom, laboratory, field work.

Classroom:

The curriculum content is offered through a manual (which has been audiotaped), lecture, small group discussion, demonstration (including frequent audiovisual presentations), plus practical experiential assignments to be carried out as tested competencies of the course.

Adaptations made to the audiovisual presentations were for the instructor of the faculty assistant to touch and move the student during the media demonstration, or to auditorially describe when films, etc. are not liberally narrated. Since manuals and supplementary books are audiotaped, the student had great difficulty in spelling the technical vocabulary. Word lists were carefully put into Braille and efforts have been focused on improving spelling and grammar and all written accountability. Typing skills needed to be improved so, through the cooperation of a home teacher provided by MSB, we have sent word lists and requested that drills be combined with building appropriate vocabulary. Templates (raised lines or cut-outs) have been made by FA to help develop concepts of charts, assessment forms and progress note formats being used at clinical centers. Written accountability is a competency of the program and must be addressed with vigor if the student can graduate adequately prepared for the field.

Laboratory:

It was necessary to provide total assistance (1:1) in teaching most of the craft skills. FA feel that an overdependence developed during this quarter due to the dangerous equipment being used, the fast pace of the units, and the number of students using the small laboratory space. The FA provided the required surveillance to provide safety. The student tended to ignore the Brailled aids and special space allotted to her, even ignoring the audiotapes provided because the FA were available to her. FA feel that the student should have been forced to do more problem solving and the course should be slowed down so that independent mastery of skills could be developed and competency assured.

Specific adaptations:

1. Goniometer readings--student mastered the concept of estimating joint range, using Brailled protractor.
2. Dynamometer, pinchmeter--unable to read, due to complexity of the instrument and glass encased needle.

Specific adaptations: (continued)

3. Blood pressure readings--electronic sphygmomanometer produced inaccurate readings. Instrument was unsuccessfully adapted.
4. Pulse readings--tactile, successful.
5. CPR--learned and passed competency, using audiotorially adapted models. Took longer but determination and effort was great.
6. Cardiac exercies regimen--Brailled and thermofaxed descriptions were provided by FA who also audiotaped the descriptions. Could demonstrate the calisthenics successfully, but doubt ability to monitor cardiac groups because so much is visual and groups vary from three to seven persons, each with cardio-pulmonary pathology.
7. Wheelchair experience--buddy system used with another student could escort an alert, cooperative client satisfactorily.
8. Postural reflex movements--learned through modeling and Brailled, thermofaxed sketches provided by FA. Successful.
9. Splinting--worked with partner. Basic shape was cut for her by FA. Took longer due to heat used in molding. Not satisfactory.
10. Adaptive devices--made extremely simple device but was unable to problem solve (visualize?) what to do. Needed (1:1) assistance. Unsatisfactory.
11. Graphics--needed total assistance in cutting block prints and silk screen stencils (Cut herself while guiding blade) but successfully set printers type using Brailled template for job case prepared by FA. Printing press handled successfully once the margins were setup with tactile guides for her by FA.
12. Woodworking--a steel square was used as a saw-guide for cross-cut and rip-sawing. Miter box saw was very successful due to the built in guide. X-ray template was made by FA and used to guide the coping saw experience. Constant supervision by the FA was absolutely necessary during use of power equipment. Dependent in use of tilting arbor bench saw, drill press, power sander, but she tried, at least! Would need longer time to develop safe practice.
13. Additional paper and pencil assignments for units include making schedules, developing floor plans (room arrangements), ordering from catalogs of supplies, etc. Options will be offered and creative problem solving skills urged in order to develop own independent solutions.
14. Ceramics--hand building of clay projects were no problem. Glaze bottles needed Brailled labels as to color and kind of glaze. Operation of the electric kiln was accomplished but reading the cone temperatures was not possible. Kiln operation could be done with an automatic kiln, which we do not own.

Field Work:

The optimal practicum clinic for totally blind students would include a small clinic area with limited equipment, slower pace in treatment delivery, a supportive supervisor and staff and (1:1) interaction with clients. Difficulties and problems that need to be addressed:

1. Inability to observe interfering behaviors especially in groups. Pediatric affiliation presented great problems, unsafe practice.
2. Inability to read charts without assistance. Reader must be provided.

3. Difficulty in recording treatment and ongoing progress assessment. Must learn to use tape recorder to maintain accountability and as a means to keep data for reference. Might learn to use Brailled diary-form account of progress and type progress notes from this data-reference. Typewriter could be set with tabulated blocks to type progress notes using format of the center. VIS students must develop a concern for written accountability. They must use their problem solving skills and enter the course with both Braille and typing skills.

Summary statement:

The sophomore OTA faculty spent a great deal of time in making the course accessible to VIS students. Fall quarter laboratory, 12 hours weekly for (1:1) supervision and instruction; classroom, 6 hours weekly for class preparation and extra help in competencies. Winter quarter, 12 hours weekly for laboratory, for 3 weeks; 6 hours weekly for classroom preparation, extra help, consultation with field work supervisor, home teacher (MSB), worksheets, clinical visits. Spring quarter classroom and clinical, estimate 9 hours weekly for classroom, consultation, worksheets, class preparation, clinical visits.

TILE MOSAIC

Different sizes and colors of tiles were available. Bonnie chose the smaller tiles as a challenge. The bigger ones would have been easier to position and to keep in place while glueing. She chose four different colors of tiles, which were then sorted for her and put into dishes in the order of the pattern she had planned.

Glue was spread across the trivet and down far enough so she could position three rows at one time. After each row she asked if the tiles were straight and directions were given as to those to be straightened. After rows dried a little, it was then much easier to position the tiles in the next row without any moving.

Mixing up the grout and applying it did not pose a problem, but she could not tell whether all the cracks were filled or not. She was able to follow directions very easily as to how to do each step.

The following day she wiped off the grout film with a dry cloth. Some direction was needed to point out areas she missed. Then grout sealer was applied. Again she needed to be told where the areas were that were missed.

The project turned out well.

COPPER TOOLING

MOLD -- Bonnie had trouble cutting the copper with a scissors. A ruler was lined up with the copper, and she cut along the ruler. It needed to be trimmed a little to make the edge straight.

She worked independently on depressing the copper but needed help in applying the liver of sulfur, as to which direction to go to hit the places she missed. She had used an applicator, but I think a brush would have worked better, as she could have gone straight down the picture. She needed the same kind of directions when using the steel wool after the sulfur solution.

FREE FORM -- A template design -- silhouette of a bird on a tree branch -- was cut out of cardboard. It was then taped to the copper and traced around with the tools. The complexity of the design made it hard to trace around, but she was able to do a pretty good job. After tracing around the design twice, the template was removed and she could feel the outline. As she started to depress the inside areas as with the mold method, she had a hard time distinguishing which was the inside of the design and which was the background. Masking tape was put in the background areas next to the design and this helped.

When mounting the picture onto wood, she had trouble putting in the escutcheon pins. She was afraid she would hit the picture instead of the nails. She was also afraid of hammering with a little force. I helped her with the hammering.

In both pictures, when putting in the clay, it had to be checked to see if all areas were filled. She was always concerned about pushing in the design.

LEATHER LACING

SAMPLES FOR CHART

To cut squares, strips of leather were cut and the ruler was used as a guide along which to cut the next lines. To punch the holes, a 1" x 1" cardboard template was used. Four holes were punched into the template 1/8" from the edge and 1/4" apart. She was able to line up the template with the edge of the leather. Feeling the hole, she could position the punch into the hole and punch a hole into the leather. As each sample piece was completed, with directions given for each sample, it was glued to the cardboard and the directions were then written onto the chart for her.

COMB CASE

Template for the comb case was placed on the leather and taped down. She was able to trace around it but could not cut it out. A template design of a flower and leaves was then cut out of cardboard. It was taped down to the leather and traced around with the modeling tool. She was unable to use the bevel end of the tool.

Oxalic acid and wax were applied independently, directing only as to areas missed; the wax she could pretty well feel for herself.

In glueing the two pieces together, we had to do a little adapting. Using a stick to apply the rubber cement made too wide a line and the same thing happened when she used her finger. So I held a piece of cardboard over the comb case except for the edge to put glue on. This worked pretty good.

To punch the holes, the 1" x 1" template was used again. The template was positioned as before and she could punch four holes. Removing the template, the first hole of the template was lined up with the last hole of the leather. Taping the template into position, she was able to punch three holes. This proceeded in this fashion until she had punched holes all around the comb case. She laced it independently but had problems with the lacing twisting. After she was shown where her mistake was and how to correct it, she was able to do a beautiful job in lacing the comb case. She did the double cordovan stitch. She could not thread the needle by herself or glue the end down in the inside of the comb case.

She did a really neat job!

LEATHER BELT

After the leather was measured for length, she used a template to cut the round edge. The same template was to be used later on to punch in the holes for the rivets and buckle and for the holes at the other end of the belt.

Bonnie chose to alternate a leaf and flower design on her belt. She was able to do the stamping independently by placing the design a finger width apart. Her only problem was hitting the stamping tools evenly throughout the belt.

Finishing the edges: The circle edge slicker was no problem. The common edger caused Bonnie difficulty as it kept slipping off the belt. The edge creaser was not as difficult, although she did run off the belt several times and her crease was not perfectly straight.

Bonnie could clean and antique her belt independently except for pointing out areas she had missed. When she was applying the antique, she rubbed it in, so it got a little darker than she had wanted it to be, but it was still a nice color. Waxing could be done in the same way.

When it came to putting in the rivets, she was afraid to hit them with the hammer. She thought she would ruin something. She found that she had to really strike them or they would not stay together.

ASSEMBLAGE OF A SNAP

She learned to identify the four different parts of the snap. Again she was afraid to really hit with force to set the snap together. When holding the hammer with her, and giving a blow, she is then able to get some idea of how hard to strike. With more practice, she could improve this skill. She needs a little more confidence.

JIG SAW

Bonnie learned how to insert the blade, feeling of the teeth to know which direction it goes.

She is also able to cut a small board with use of adaptations. Measure the board with the braille ruler and draw the lines for the dimensions. Line up the line with the blade. Then take the ruler and line it up with the right side of the wood and tape it down to the table of the saw. With the ruler as a guide, she is able to guide the wood and cut her board. Depending on the dimensions and how it lines up, it is possible.

LETTERING

Lettering as such with the lettering pen and the Roman letters is an impossibility, at this time anyway. Bonnie can hold the pen correctly and could teach that to a learner.

With more practice, stencils are a possibility. We did try them with a magic marker, but she was not able to cover all the area, especially at the corners. With more practice she may be able to get the stroking and may be able to do it better.

The lettering poster was made for her to use in teaching. Roman letters were made on cardboard, cut out, and mounted onto cardboard so the outline of the letters could be felt. Arrows were cut into the cardboard so she could feel the direction and tell patients the directions of the strokes. This was helpful to her and hope it will be a helpful tool if she has to teach it.

POSTER

Since she has trouble with cutting, we decided to make a flower. Starting with a two-inch square, it was folded diagonally and then cut along the fold. These were used for the petals. Using a jar cover, she cut the center of the flower. The stem and leaves were done on somewhat the same procedure.

The flower was positioned and each piece was glued. She could do all the glueing and guiding her hand, she could also place them in the correct position.

To put the words on the poster, letter templates were made. The templates were placed on for Bonnie to trace around. They were put on with silly putty. At the time this worked better than the stencils, but there were still some problems. Some of the letters moved out of place. A large magic marker was used to go around the letters. Bonnie used her left hand to help guide the marker, causing her to get ink on her hands and poster. I'd suggest using a crayon instead of magic marker to eliminate that problem. With practice I think this is a good way for her to letter.

DECORATING WOODENWARE

Bonnie independently sanded the wood of her box once she knew which way the grain ran. Next we tried to stencil a butterfly on the box. The stencil was cut out of stencil paper and attached with putty underneath and masking tape on the outside. The whole top of box was covered with paper. Bonnie painted the stencil with water color. This was unsuccessful, as the water color ran under the stencil.

So I cut another butterfly stencil out of contact paper and again covered the whole top of the box. Again we used water color. This method worked very well, as the water color could not get under the stencil. Bonnie could miss the stencil as much as she wanted on top of the box.

Next she applied several layers of shellac to the box, needing help only to spot missed areas. After the shellac was dry, she applied two coats of wax and put felt on the inside and on the bottom.

GRAVEL MOSAIC

A two-piece template of a tree made out of cardboard was Bonnie's design for the gravel mosaic. I taped this down on the board for her and she used it as a guide for glueing the braid on. She had difficulty placing the glue only next to the template. Also the braid wanted to go under the template in places. She completed this part with an extra hand to hold down some of the braid.

When all the braid was glued down and dry, glue was spread on the inside of the braid for the top of the tree and green gravel was placed inside. The overflow of gravel was put back into the proper bottle. When this section was dried, the bottom of the tree was done in the same way, using brown gravel.

Two coats of shellac were put on top of the gravel after it was dried well.

Before all this was done, the board was prepared. Bonnie used a precut board and stained it with burnt umber acrylic paint. She used a damp cloth to spread it on and a dry cloth to wipe it off. A brush would have been easier, as it is easier for Bonnie to feel where she is going with a brush rather than a cloth. A coat of shellac was applied.

PLASTER CASTING

Bonnie chose the American eagle form. To determine the amount of plaster to be used, you measure the amount of water to fill the mold. It was hard for Bonnie to hold the form and fill it with water without spilling, so I did that for her. This is put in a pail and then plaster is added. It would have worked a little better and would be easier for her to just measure a certain amount of water and then add the correct ratio of plaster. Otherwise, it would be difficult for her to know when she has the right amount of plaster unless she is able to feel the consistency.

When the plaster was mixed, she was able to put in the mold. I put the hanger in for her. After a half hour she was able to take the form out of the mold. It was a time of excitement for her to be able to feel the form.

After it had thoroughly dried, she painted it with acrylic paints. The leaves at the bottom were covered with masking tape while she painted the eagle. When the eagle was dried, she took off the tape. I outlined the leaves and then directed her as to where she should paint. She did a beautiful job.

When the paint was dried, she put two coats of shellac on.

MOD PODGE

Bonnie helped cut her board on the jig saw. Because the dimensions were bigger, out method for cutting the board did not work. She did help to guide it through. After sanding the wood, she was able to apply a coat of stain and wipe it off, with directions for the places missed.

One coat of mod podge was put on the wood. After it was dried the picture was centered onto the wood. Several coats of mod podge were applied, waiting between coats.

To select a picture, I described the pictures to her and then she decided which one to choose. She chose a nature scene of a waterfall with green trees around it. She needed help in positioning the picture.

She had trouble applying the mod podge. The first time she applied it with her fingers, as she thought this would be easier. When it dried, it was a little on the rough side. After the picture was put on and it was time for the next coat, she used a brush but it still stayed rough. I think what happened is that in using the brush and guiding it, she tended to press too hard on the bristles of the brush. Consequently, the bristles left their impression. On the last two coats she did not press so hard and then went over it to smooth it out a little more, and it did make a difference.

A coat of shellac was applied to give it more of a finish. It looked really nice, even though it was rough.

FILM PROJECTOR

This was a very frustrating experience for Bonnie. The first time we went through it, she just learned the general direction that the film went, and the parts that had to be opened for the film to pass through. The next time, she learned the names of the three gates that had to be opened and how to do it. She also learned the names of other parts that were essential to know. After going through it four or five times and many frustrations, she was able to thread the projector by herself. This was a very encouraging experience.

She will need the help of the audience to tell her whether it is focused and whether it has to be lowered or raised.

She will need opportunities between to review this in order to remember how to operate it.

SLIDE PROJECTOR

She learned how to feel the notch where the carousel is positioned. When the slides are finished, she finds the 0 mark with one finger and punches the selector button with the other. She can then turn the carousel until her finger comes to the notch. Viewers can again tell her if it is focused or if it needs to be centered on the screen.

This also was a very exciting accomplishment. She really was pleased that she could master this.

So far Bonnie has done well with the crafts. With the amount of time and the materials that are available, she has been able to do a lot. It is hard at this time for us to know for sure if Bonnie will be able to teach someone. The real test would be for her to teach someone who has never done the particular activity before.

OCCUPATIONAL THERAPY ASSISTANT PROGRAM: Sophomore Course Outline and VIS Learning Experiences

This appendix includes a course outline for the Sophomore Fall quarter OTA courses and reports on the experiences of visually impaired students involved in the OTA program curriculum. The report of peer tutors working with a blind student during Winter quarter 1977-78 involved the experiences of a blind student ready to withdraw from the OTA program. Therefore, the report was affected by the student's lack of motivation and interest in the OTA program.

ST. MARY'S JUNIOR COLLEGE
Minneapolis - Minnesota

OCCUPATIONAL THERAPY IN PRACTICE

OTA 217 - 228 - 238
Credits - 23

Course Description

Application of the concepts of occupational therapy as a means of directing man's participation in tasks selected to restore, develop or maintain those skills essential to his optimal life style. Emphasis is on the development of motor, self-care and work skills, with integration of social, cognitive, and leisure time skills in the recognition of the whole person. Skill development in the normal child and its application to the multihandicapped and mentally retarded is presented along with a survey of medical, surgical, orthopedic and neurological conditions in the adult with particular attention to skill assessment, current treatment theories and procedures, data collection, documentation of procedures and accountability in treatment of the client with physical dysfunction. Instruction is given in transfer techniques, object manipulation and self-care activities, splint fabrication, component activities useful in building work performance skills. Organization and management of activity units in nursing homes, the use of the consultant and community resources and volunteers. Activity techniques taught are: woodworking, adaptive equipment, leather and metal, graphic arts, ceramics, sensory-motor play. Field experiences in community agencies, hospitals and schools are coordinated with each unit of study.

Class and Laboratory Hours

Class - 3 hours a week
Classroom Laboratory or Supervised Field Experience - 16 hours a week
Credits - 23 (7 fall, 8 winter, 8 spring)

Terminal Objectives

The student will be able to:

1. Contrast the concepts of supportive and functional occupational therapy and explain the OTA's role in each of these.
2. Explain goals in terms of adaptive skills in the occupational therapy prescription for general medical and surgical conditions.
3. Explain how the patient is referred to the OTA by his supervisor and what guidance to expect.
4. Discuss the important concepts of patient-therapist relationships and to demonstrate the use of these concepts in the clinical setting.
5. Discuss the important concepts of relationships with other members of the treatment team.
6. Explain principles and means of planning and adjusting the treatment program to meet the patient's needs as his condition changes.
7. Demonstrate assessment techniques in evaluating patients' abilities and attitudes.
8. Retrieve appropriate medical data and psychosocial information from patients' charts.

9. Demonstrate the ability to aid a patient in transfer from bed to wheelchair and back, assist patient in walking, transport patient safely by wheelchair and position bed patient for activities.

10. List and describe and demonstrate special techniques and precautions to be used in working with patients with auditory impairment and visual impairment.

11. Explain the objectives of occupational therapy for patients with orthopedic and neurological conditions.

12. List and demonstrate the possible motions of the human body.

13. Explain the principles of use of activities in range of motion, muscle strengthening and exercises for improvement of coordination, including importance of positioning.

14. Describe the psychological problems of disease and injury, including those associated with terminal illness.

15. Explain the use and purpose of common splints and adaptive equipment. Demonstrate ability to cut and bend and fit splinting materials.

16. List precautions in working with physically disabled and describe signs of fatigue, pain and distress with the patient.

17. List and describe briefly the pathology and major symptoms of the following clinical conditions, and describe the occupational therapy objectives, appropriate activities and precautions in the treatment of these conditions:

    a) traumatic injuries to bones and joints
    b) joint and bone diseases
    c) amputations
    d) hemiplegia and aphasia
    e) progressive neurological conditions
    f) spinal cord disorders
    g) peripheral nerve injuries
    h) respiratory diseases
    i) diseases of heart and blood vessels
    j) gastro intestinal conditions
    k) metabolic and nutritional disorders
    l) neoplasms
    m) burns
    n) allergies
    o) cerebral palsy

18. Demonstrate the ability to treat effectively clients with physical dysfunction as well as clients with developmental deficits and the mentally retarded by the use of the following modalities: recreation, exercise programs, activities of daily living, task assignments and craft skills.

19. Explain the problem-oriented system of charting patients' progress and demonstrate the ability to write pertinent notes utilizing this system; explain documentation for Medicare and demonstrate the ability to write this type of note.

20. Describe and demonstrate the use of aseptic techniques.

21. Explain the value of self care skills (ADL) and development of independence for client and be able to describe and demonstrate simple techniques in training for feeding, dressing, grooming, writing, object manipulation and homemaking.

22. Describe the principles of work simplification, of work hardening.

23. Describe the principles of perceptual motor training and neuromuscular facilitation.

24. List normal growth patterns and developmental needs of children, including interests, abilities and appropriate activities for children of different age levels.

25. Describe and demonstrate techniques in gaining and maintaining rapport with children as well as maintaining discipline.

26. Choose activities to meet such objectives as development of strength and coordination, social skills, aid in development of cognitive skills and development of self-care skills and leisure skills.

27. Assist in planning long term supportive program for patients with conditions requiring prolonged bed rest.

28. Describe and demonstrate activity techniques which apply especially to child development such as story telling, nature study, finger plays, gross motor skills, fine motor skills, dramatic and imaginative play and music.

29. Describe the history of treatment of the mentally retarded and list and describe types of facilities for treatment.

30. List and describe the common clinical conditions in retardation.

31. In terms of adaptive skills list and explain goals of occupational therapy for the retarded.

32. Describe useful attitudes and approaches to the retarded and current treatment methods, including self-care skills.

33. Demonstrate proper procedure for applying for a position as COTA, including writing letters of application.

34. List and classify facilities for care of the aged, including utilization of MEDICARE and MEDICAID.

35. List and describe scope of activity programs for aged.

36. List and explain use of records in activity program.

37. Explain responsibilities of OTR consultant in an activity program and how best to use this resource.

38. Describe principles of scheduling activities in advance and demonstrate ability to do so.

39. Explain principles of planning physical facilities for activity program. Describe and demonstrate principles of choosing appropriate supplies and equipment, methods of ordering and storing and maintaining them, and describe resources for free or donated services and supplies.

40. Describe principles of making appropriate use of volunteers.

41. Explain procedure for starting and publishing a resident newspaper.

42. Explain and demonstrate principles of budgeting of time in order to make efficient use of the services of the COTA in the interest of the patient's welfare.

43. Describe the role of occupational therapy in the community.

44. Explain the use of occupational therapy in prevocational exploration and work activity training.

45. List rehabilitation agencies in the community and explain their function.

46. Demonstrate calisthenics program appropriately and monitor it.

47. Demonstrate the ability to use the following skills in the treatment of patients: woodworking, splint and adaptive equipment making, graphic arts, metal work, ceramics and sensori-motor play activities.

48. Demonstrate the ability to present an in-service training session.

49. Given a description of a client and his specific skill deficits, explain how you would measure the value of his treatment for accountability purposes.

COURSE OUTLINE OTA 217 - 228 - 238

OTA 217

UNIT I 11 hours -- Motor skills in occupational performance. Adverse effects of inactivity. Components of motor skills: gross motor, fine motor. Range of motion, techniques for muscle strengthening and developing coordination. Understanding motor skill assessment devices and the role of the COTA in obtaining data. Activity analysis for motor skill development.

UNIT II 8 hours -- Basic client support skills for working in centers treating clients' developmental and physical dysfunction. Attainment of competency in body mechanics, performing transfers, utilizing ambulation aids, positioning. Fabricating splints. Components of self care skills and activities of daily living. Work simplification. Simulation: Treating patients with goals involving ROM, strengthening, coordination and utilizing client support skills.

UNIT III 10 hours -- The spiraling continuum of sensorimotor development, the sense organs and perception. Understanding reflexes. Neuromuscular facilitation theory. Simulation: Treating clients with sensory impairment, adapting self care skills and utilizing work simplification techniques to improve occupational performance.

OTA 228

UNIT IV 40 hours -- Occupational therapy for adult clients with general medical conditions and physical dysfunction, theory and practice. The five functions of occupational therapy: assessment, gathering data, treatment planning, influencing the client to participate, sharing and accountability. Treatment procedures in coronary care, with fractures, burns, amputation, arthritis, strokes, spinal cord injuries, peripheral nerve injuries. Treatment procedures with major chronic neurological, respiratory, metabolic conditions treated in occupational therapy. Oncology programs. New programs for pain management. Community health. Problem-solving, assessing self-care, simulabs.

OTA 238

UNIT V 30 hours -- Occupational therapy with developmental disabilities, multiple handicaps and mental retardation. Cerebral palsy. Perceptual-motor methods of Ayres, Frostig and Bobath. Equipment and positioning. Teaching and training in self-care skills: sucking and swallowing, feeding, toileting and hygiene, undressing and dressing, communications skills, object manipulation. Use of behavior modification. Learning disorders. Clinical conditions in mental retardation. Behaviors, attitudes and approaches. Normalization, laws and regulations. Parental attitudes, agencies, and organizations. Work skills, general and specific, use of time skills, decision-making skills applied to the mentally retarded.

UNIT VI 10 hours -- Organization and administration of activity programs in long term care facilities. Effects of Medicare and Medicaid, federal and state regulations. Types of facilities, use of the consultant, planning the activity area and its equipment, records, ordering and maintaining supplies, principles of budgeting time and money, developing the schedule, working with volunteers, resident newspaper, use of community resources, writing job descriptions, principles of management by objective. Behavioral peer evaluations. Job applications, writing resumes'.

COURSE OUTLINE, continued

CLASSROOM LABORATORY - 144 hours + 20 hours special skills. Includes the following skills: Woodworking, splintmaking, graphic arts and printing, ceramics, homemaking, self-care skills for independent living, and developmental play techniques used in occupational therapy programs. Simulab for competency testing with selected equipment and techniques.

SUPERVISED FIELD EXPERIENCE - 272 hours. Includes assignments to community agencies that provide acute and rehabilitative medical care, plus day activity centers and schools where occupational therapy is utilized.

ST. MARY'S JUNIOR COLLEGE
Minneapolis - Minnesota

A 217 Fall Quarter, 1977

1. Introduction to the course.
Explanation of course content and terminal objectives; use of course outline throughout the year and the track system. Explanation of assignments, absences, IPI, LTD, pretests, formative quizzes, laboratory contacts, competency tests, individualized instruction and simulations, field experience, worksheets and retrospective conferences. Explanation of grading procedures. Total points.
Unit I. Motor skills in occupational performance. Pretest: Review of functions of O.T., adaptive skills and medical terminology.
Assignment: Read course outline and mark all assignment dates. Prepare Lesson I from Manual for LTD.

September 11

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2. Adverse Effects of Inactivity, 5 points.
LTD: "Deterioration of the Bedfast Patient," Frederic J. Kottke

September 13 — Lesson I

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3. Formative Quiz, 15 points.
Lecture: Components of Motor Skills

September 15 — Lesson II

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4. Components of Normal Active Motions of the Human Body
IPI: Bones, Joints, and Muscles, Rancho Los Amigos, to be tested end of Unit I, October 30
Classroom activity and film: "Hand Skills of C6 Quad," 16 min.

September 18 — Lesson III

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5. Types of Exercise Based on Muscle Strength
Demonstration and practice of PROM, 5 points
Demonstration and practice of Assistive exercise, Towel and Dowel Routine, 5 points.

September 20 — Lesson IV

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6. Therapeutic (exercise) Activities for Muscle Strengthening
Slides of Deltoid Aid Procedure
Demonstrations, practice: 5 points.

September 22 — Lesson V

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7. Therapeutic (exercise) Activities for Developing Coordination
O.T. equipment used in treatment for coordination.
Demonstrations and practice: 5 points.

September 25 — Lesson VI

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8. Developing prehension skills, 5 points.
LTD: "Sequential Levels in Development of Prehension", Erhardt, Rhoda.

September 27 — Lesson VII

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9. Understanding motor skill assessment devices and instruments.
Demonstrations and practice: 5 points.

September 29 — Lesson VIII

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10. Understanding motor skill assessment, testing coordination.
Demonstrations and practice: 5 points.

October 2 — Lesson IX

11. Activity Analysis for Motor Skill Development
Classroom activity: Prepare analysis using precise form, 15 points.
Lesson X
October 4

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12. End of Unit I exam, 100 points.
October 6

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13. Unit II, Basic Client Support Skills
Principles of Body Mechanics.
Film: "Body Mechanics, Protection for Patients and Personnel" 10 min.
Demonstrations and practice, 5 points.
Lesson XI
October 9

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14. Ambulation Aids
Crutches, canes, and walkers
Demonstrations and practice, 5 points
Lesson XII
October 11

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15. Transporting by wheelchair and litter.
Assignment: Write a one-page account of a wheelchair tour of SMJC (push a partner and in turn be pushed by him.) due October 27 - 15 points.
Demonstrations and practice, 5 points.
Lesson XIII
October 13

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16. Transfer Techniques
Hemiplegia: bed to wheelchair, wheelchair to toilet, wheelchair to chair or mat, wheelchair to car.
KRI slides and practice.
Lesson XIV
October 16

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17. Transfer Techniques
Paraplegia: bed to wheelchair, wheelchair to car, use of sliding board, special bathroom procedures.
KRI slides and practice
** Competency testing on transfers, 10 points.
Lesson XV
October 18

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18. Formative Quiz on Transfer Techniques, 10 points.
Equipment and Positioning
KRI slides and booklets
Classroom Activity, 5 points.
Lesson XVI
October 20

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19. Splints
Videotape: "Corrective Static Splinting of Arthritic Hand", 35 min.
Formative Quiz on Splinting, 10 points.
** Classroom laboratory assignment: Make one dynamic and one static splint.
Lesson XVII
October 23

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20. Components of Self-care Skills
Use of ADL evaluation forms, Classroom Activity.
Independent Learning: "Reaching for Independent Living". AV unit to be completed before this class.
Lesson XVIII
October 25

OTA 217

REP

21. Theory of work simplification, energy conservation
Classroom Activity, 5 points.
October 27 Lesson XIX

** Assignment: Simulab, Individual Assignment, [illegible] points. (Week of Oct. 23-Oct. 27)

22. End of Unit II exam, 100 points.
October 30

23. Unit III, Spiraling Continuum of Sensorimotor Development
Classroom Activity: Denver Developmental Screening Test, 5 points.
November 1 Lesson XX

24. Understanding Reflexes
Film: "Postural Reflex Assessment" - 45 min.
(Practice in Lab)
November 3 Lesson XXI

25. Sensory receptors: Sensory perception
LTD: Lesson XXII, 5 points.
November 6

26. Neuromuscular facilitation, theory and demonstration
Guest Speaker
November 8 Lesson XXIII

[illegible]7. Workshop, Demonstration of sensory and motor dysfunction, 5 points.
November 10 Lesson XXIV

28. Applying Adaptive Skill Concepts to Clients with Sensory Loss:
Visual Disorders/Hearing Impairment
LTD: 5 points.
November 13 Lesson XXV

29. Demonstration and practice of mobility, training techniques, blindfolded subjects.
November 15 Lesson XXVI

30. Resources and Agencies
Classroom Activity: Cases, Problem-solving, 5 points.
November 17 Lesson XXVII

31. Applying self-care skills, work simplification to the visually impaired client. Classroom Activity, 10 points.
November 20 Lesson XXVIII

32. Homemaking Simulab, 15 points.
November 21

33. Final Exam, 200 points.
November 22

Fall Quarter Ends

One Week Vacation, November 23-December 4

THE REPORT OF AN OTA PROGRAM FACULTY ASSISTANT'S EXPERIENCES IN ASSISTING A LEGALLY BLIND SOPHOMORE OTA STUDENT DURING FALL QUARTER, 1978

I did not work much with the student in woodworking. She worked very independently. The only time I helped her was in cutting a piece of wood for her project. She decided to use the yardstick as a guide next to the cutting line on the wood. Taping it securely to the wood, she was able to see the yardstick better than the cutting line. This did not work very well as she would sometimes run into the yardstick. The next time, she used a scrap piece of wood that had a straight edge instead of the yearstick. This worked much better. The scrap wood was secured to the wood to be cut and placed next to the cutting guide of the saw. Otherwise, she was very independent in woodworking.

Graphic arts - 1) block printing was done independently except for cutting out fine areas in the design. She checked a couple times to see if she had everything cut out.

2) silk screening - The student had done this before, so she was familiar with the process. So she chose to do a small delicate design for on name cards. Because of this, she was not able to cut out the profilm. She would have been able to do this if it would have been a larger simpler design. Rest of the procedure was done independently.

3) printing on printing press - This was probably the hardest activity for her. Since the spaces were not in the correct place and some were mixed up, I picked out the spaces she was to use. The first time, she set up type, I picked out the letters to save time. Feeling of the nicks, she was able to set the type. In justifying the lines, she had problems fitting in the small spaces, getting them in the right place and getting them pushed all the way in. When setting up the press, the letterhead printed low, so it was impossible for her to see to draw lines for the guage pins. There were the areas that caused the most problems.

The student chose printing as part of the A project. After distributing all the letters from previous projects, she was able to find letters she needed and was able to fit in the small spaces this time for justification. She had to set up type quite a few times and did a lot of problem solving to do this independently. Since the names printed up higher in the press, she was able to center each independently. With repeating the process as often as she did, the student learned the steps to do it independently.

REPORT OF EXPERIENCES OF A LEGALLY BLIND SOPHOMORE OTA STUDENT

Fall Quarter 1978

I found that I had very little trouble with the woodworking section. I feel that braille equipment is necessary for next year. I feel that braille rulers and any other equipment would allow the student to be more independent.

I found that I needed a better explanation of the slides and to have some of the procedures shown to me. The mastery tests weren't recorded, but next year it might be necessary.

The graphic section required a little more help and concentration. If the modified job case worksheet were brailled, I feel that the students would be able to print on the printing press independently. The student would need to have someone check or proof read his type to be sure it was correct, and then complete the process.

Silk screening was rather simple. The problem would be in cutting out the design which someone could do for the student.

The biggest problem in Occupational Therapy this quarter was in recording of the manual. The last section on self-care was poorly recorded. The reader failed to describe the charts and tables which explained the lesson. Also, parts of the unit were omitted.

I found the close circuit television difficult to see and understand the principles that were being taught. If a teaching assistant could be near the student this would help to explain the body positions.

Generally speaking, I feel that the blind student will not have much of a problem next year.

REPORT OF PEER TUTORS ASSISTING A TOTALLY BLIND FRESHMAN OTA STUDENT

Winter Quarter 1977-78

Finger Painting - There was no problem with finger painting once the materials were identified.

Pattern File - Patterns of heavy cardboard with little fine detail were chosen for the student to trace around. They were arranged on the cardboard and stabilized with stick-em by the tutor. The student used her left hand to feel the pattern edges and her right hand to trace. Occasionally she misguided her pencil from the pattern. The tutor cut out the patterns once they were traced.

Embroidery - Yarn was used in place of embroidery floss, burlap for cloth and a large-eyed plastic needle. The student could thread her own needle. The following stitches were taught: feather, blanket, cross-stitch, outline, french knot, lazy daizy, chain, and satin. Masking tape was used as a guideline or baseline for the blanket, outline, and chain stitch. Two strips of masking tape were used for the feather, cross-stitch, and satin stitch. Stitches were made between the tape.

Weaving:

1. Floor loom and table loom: The actual weaving was done independently, with a few problems. She was not able to pick up errors and found it hard to keep the edges straight. Once she was able to keep the pattern straight and keep track of where she was, she could go independently until time to change colors. Yarn for table loom project coule be distinguished by feel. We should have marked the shuttle for the floor loom so she could have identified them.

We had to figure out the pattern and put it on paper before Bonnie was able to start weaving. She was able to measure and change the threads with reminders of where to start.

For her rug on the floor loom and purse on the table loom she needed direction and assistance with removing from the loom. She was taught how to knot the fringes. In finishing the purse, Bonnie sewed up the side seams of the purse as well as the lining and along the top to sew the two together. She used a guide of cardboard on the sewing machine to help her. The velcro was sewed in for her. She was able to braid the strap and attached it to the purse with assistance.

As far as set up, she was to work with a partner, but that did not work out. She has had to be taught how to set up both looms before she could take the tests. If given enough time, and a lot of trial and error, she might be able to do it.

2. Looper Pot holder: The only problem was to have colors separated and then to concentrate to remember which color she left off with. A couple of times she got mixed up with colors. Otherwise she did it independently.

3). Turkish knots: She was shown how to make the knots on the frame. She had to be told which color came next in the pattern; she was able to do her two rows. Background colors and boxes with yarn in them could have been marked in braille to create more independence.

4). Braid weaving: After demonstrating how to work the frame, Bonnie was able to do the complete frame. Tape was put on the ends to keep the ends in place. To make the braiding a little easier, two needles were used for the two colors of yarn. One needle was marked with tape so Bonnie could tell which color she had. After explaining the stitch and working through it, Bonnie was very unsure of herself. She kept asking if it was right and at times, she was so convinced she had made a mistake when this was not the case. She could thread the needles for herself and measure, but again, she was not able to find her own errors; pattern had to be planned for her, when finished, the ends of the yarn were woven in back for her. Instead of working at it a little at a time, she would only work when tutors were there and left it until the last minute, so she was under pressure.

5). Chart of knots used in weaving: After a lot of practice, Bonnie was able to tie the weaver's knot and the square knot using thick yarn. She had a very hard and frustrating time with warping thread.

Paper Cutting:

Cone, square, snowflake, 5-pointed star.

Cutting is very hard for her. The only way she is able to cut is to fold and then to cut along the fold. She will not come up with a smooth cutting line or perfect shape, but that is what she is able to do and has to accept it.

1) Cone - She was very upset at first when we made her cut out a circle using a round object as a guide. She wanted us to provide the circle. She then folded the circle in four to use the line to the center as a cutting line.

2) Square - While cutting all of these, she had to have much assistance with directions. She was told very carefully every step. She was able to fold it properly and get the square cut.

3) Snowflake - This was very hard for Bonnie to learn how to fold and would take a lot more practice to feel secure with. When it came to cutting. the cut was made very simple. It was hard for her to understand what she had really made.

4) 5-Pointed Star - This again was hard for her to understand how to fold, and again with cutting. After a lot more practice, it would be better.

Paper Mache'

1) Sculpture - She made a dish. She took a plastic dish and put vaseline around the outside. Putting the dish over a jar to help it stay above the working surface, she began working putting strips of newspaper into the paste and working putting strips of newspaper into the paste and then onto the dish. She went in one direction and when she thought she had the first layer on, she asked for help. If places were missed, she was given direction. Second layer was done the opposite direction and so on. She was able to do it by herself with assistance as to which area needed more. When she was finished, the top was cut around evenly for her.

2) Bracelet - Initial cardboard base was cut off for her after she had measured it. After given directions as to how to put on strips, she worked independently asking only if she had it covered and what needed to fixed up.

She did a good job painting both of them. She wanted flowers on her bracelet for decorations. These were cut out for her and glued on. She finished it off with a couple layers of shellac.

She had trouble applying shellac or paint evenly. On spots where it needed smoothing out, it was touched up.

Crocheting

We had a little time to do some of the basic stitches before the quarter was over. She had done a little crocheting before and had a way of holding the hook and yarn which worked for her. She seemed to catch on quickly to the different stitches. After chaining, single and double crochet, increase and decrease, slip stitch she did do a Granny Square with directions given for each step. We did not have a chance to do any more. The next step would have been to see if she could read a pattern for herself.

She did not complete all of the projects required for the grade she had contracted for. Of those she did not get done, these two she would have been able to do - mobile and 5 methods of paper craft. As far as paper crafts, she would have had problems with:

1) Enlarging a design.
2) Acrylic painting.
3) Color wheel.
4) Charcoal and pastel drawing.
5) Perspective drawing.

She did not complete the requirements in needle work, which would have been a challenge and taken time, but many of which would have been possible.

APPENDIX F

NEW EQUIPMENT DEVELOPED: Talking Meter Reader

TALKING METER READER SPECIFICATIONS
(Talking Voltmeter -- Rev 3A -- 11/77 LPW)

1. Input characteristics

The input is the phono jack on the back panel. The control next to it sets the input level. At full clockwise the input range is 0-1 volt, at full counter-clockwise it is approximately 0-10 volts.

The input impedance is approximately 500K ohms and is protected to 500 volts. One side of the input is connected to the chassis ground at the input jack. There are no other internal connections to the chassis to prevent ground loop problems. The chassis is also connected to the ground pin on the AC connector and, depending on the equipment the meter is attached to, it may be desirable to float the ground pin so as not to put a ground on the attached equipment.

The sampling rate on the internal analog/digital converter is about 10 per second. By a parts change it can be from 3 to 60 conversions per second. The 10 per second rate seems to be good for following input changes and still provide a good amount of 60 cycle AC rejection.

2. Front panel

The front panel has been left blank, assuming you will want to put braille labels on it. I would have done this but I don't have access to a braille Dymo label maker at this time.

Front panel switches from left to right are (all functions are on when up):

A.	AC Power Off-On	
B.	100 Percent Alarm On	(When in tone mode and input reaches 100 percent the reading will be spoken.)
C.	125 Percent Alarm On	
D.	150 Percent Alarm On	(The lowest alarm switch on will be the one that is recognized.)
E.	(Top) Tone Disable	
E.	(Bottom) Zero Disable	(The tone will turn off when the reading is zero, also when in constant speech mode the unit will remain silent as long as the voltage doesn't change. Upon a change in reading, the new reading will be annunciated once then silenced.)
F.	Earphone jack	(Since the TSI speech board has the supply voltage on one side of the output, the jack is a 3-circuit type with the output between the tip and ring. Grounding either side of the output could damage the speech board.)

G. (Top) Speak Peak Reading
G. (Bottom) Clear Previous
  Peak Reading
H. (Top) Speak Present
  Reading
H. (Bottom) Continuous
  Speak Mode On
J. Speech Rate Control (Clockwise fast, counter-clockwise slow.)
K. Volume Control

There are no illegal combinations of switch inputs, although some are useless, such as setting a percent alarm switch when in continuous speech mode. (It is talking all the time anyway and the alarm will not be noticed.) Others can be useful, such as having the tone disable on and an alarm switch on. This will keep the unit quiet until the alarm level is reached and then it will start speaking the value until the voltage goes back below the alarm level.

The "Clear Peak", "Speak Peak", and "Speak" switches have their priority in that order. A push on the "Speak Peak" switch while the "Speak" switch is on (or the "Continuous Speech" -- it is the same as holding the "Speak" button down) will override and say the peak reading. Also the "Clear Peak" will override anything else except an alarm condition.

Hopefully a little use will make this clear. I should also add that since these functions are determined by the software, they can be fairly easily reprogrammed. Any suggestions you might have will be appreciated.

3. A few notes on accuracy of the meter

Internally the readings are carried as three digits and on output the third digit is used to round the top two. This was done to eliminate as much as possible the characteristic of analog/digital converters to have last digit bobble. Some still gets through and is noticed as the changing between two adjacent readings. Since the A/D converter accuracy is better than 0.5 percent the last digit bobble makes the accuracy on speech 2 out of 200, or 1 percent. On tones it is 2 out of 100, or 2 percent. There are 100 tones, from 40 Hertz to 2915 Hertz. They are based on the 16th root of 2, giving a true logarithmic function. The tones are digitally generated from values in a lookup table, which is why discrete intervals and not a continuous sweep. This also allows varying the top and bottom limits and range to suit the user. There are two speech readings for each tone change.

4. Miscellaneous

This unit, being the first one with these functions, may have a few bugs in it. There also may be some changes or improvements to suit your needs better, so please let me know and I will change or correct them.

There are two things that are weak points: the limited audio output (due to the TSI speech board) and the last digit bobble. I am still looking for a better A/D converter and there is the possibility of doing some software averaging to eliminate the bobble.

Complete documentation should be done in a few weeks after I get the drawings cleaned up and copied.

APPENDIX G

IMPACT EVALUATION

1. Instruments
2. Data Summaries
3. Papers

ST. MARY'S JUNIOR COLLEGE
Minneapolis, Minnesota

TO: Visually Impaired Students, Tutors and Teachers

FROM: Maureen O'Brien, Research Associate, Educational Development Office

RE: IMPACT EVALUATION STUDY

St. Mary's Educational Development Office is continuing to study the impact of the visually impaired students enrolled in the OTA and PTA programs on the College as a whole.

The focus of the study this year is to more systematically collect information that can be used to make further instructional improvements. To accomplish this, we are asking visually impaired students, as well as their teachers and tutors, to complete questionnaires like the one attached.

Please complete this questionnaire as soon as you can and return it to my office (N713)

Thank you for your time.

Maureen O'Brien

Maureen O'Brien

FALL/WINTER
79-80

No Name

ST. MARY'S JUNIOR COLLEGE

IMPACT EVALUATION STUDY

VISUALLY IMPAIRED STUDENTS QUESTIONNAIRE

Fall, 1979 (Freshmen)

Directions:

Please indicate how much you agree or disagree with the following statements by circling one response for each statement.

Space is provided to the right of each statement for your comments. Your responses will be anonymous.

PART I:

Circle the program in which you are enrolled:

SEA PTA OTA GE MRT

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
1. The adaptive instructional equipment provided to me is adequate.	SA	A	D	SD	
2. When I have difficulties with the adaptive instructional equipment, I receive an adequate response from the Director of the Visually Impaired Project.	SA	A	D	SD	
3. The College should provide a braille machine for visually impaired students to use as needed.	SA	A	D	SD	
4. Course outlines should be made available in braille.	SA	A	D	SD	
5. I am not able to get tapes of the instructional materials when I need them.	SA	A	D	SD	
6. I feel that I'm just like other SMJC students except I have a visual impairment.	SA	A	D	SD	
7. Sometimes, I sense a distance between myself and the sighted students in my classes.	SA	A	D	SD	

(over)

PART I (continued)

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
8. I did not know what to expect at the orientation/evaluation session.	SA	A	D	SD	
9. Prior to/or during the orientation/evaluation session, I felt I was being pressured to enroll at St. Mary's.	SA	A	D	SD	
10. The St. Mary's orientation/ evaluation session was scheduled too late for me to consider choosing other programs or schools.	SA	A	D	SD	
11. I feel I shouldn't have to demonstrate my skills for sighted audiences as I was required to do at the orientation/evaluation session.	SA	A	D	SD	
12. The key features of the OTA or PTA program as well as the minimal expectations of St. Mary's were described to me before I enrolled.	SA	A	D	SD	
	SA	A	D	SD	
13. I had no difficulties filling out the application forms for enrollment at St. Mary's.					
14. I had no difficulties with the registration process.	SA	A	D	SD	
15. Instead of going through the regular College registration process, I would prefer to register before all other SMJC students.	SA	A	D	SD	

(over)

PART I (continued)

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
16. I am responsible to ask for help when I think I need it.	SA	A	D	SD	
17. I dislike being identified publicly by my teachers in the classroom.	SA	A	D	SD	
18. I need to know how other visually impaired students are doing in learning a particular skill so I can measure how fast I should be learning.	SA	A	D	SD	
19. Study assignments or take home type tests that require a lot of reading cause additional problems for me.	SA	A	D	SD	
20. The tapes I need for my classes are not available from the College Learning Center when I need them.	SA	A	D	SD	
21. The tapes provided are not adequate.	SA	A	D	SD	
22. All taped materials I will need for my courses should be available when my courses begin.	SA	A	D	SD	
23. The staff in the College Learning Center are helpful to me.	SA.	A	D	SD	
24. Course outlines should be taped for visually impaired students.					
25. Tapes of books should have the glossary and index included.					
26. I have not had difficulty using the testing procedures set up in the College Learning Center for visually impaired students.					

(over)

PART I (continued)

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
27. Visually impaired students should have an opportunity to evaluate their tutors performance just as their tutors evaluate their performance.	SA	A	D	SD	
28. Sometimes my tutor doesn't keep appointments we have scheduled.	SA	A	D	SD	
29. I am able to get a reader through the reader referral service when I need one.	SA	A	D	SD	
30. I have difficulty locating my instructor's offices.	SA	A	D	SD	
31. I find it difficult to reach my instructors if they are not in their offices.	SA	A	D	SD	
32. I have difficulty finding out about student activities going on in the College.	SA	A	D	SD	
33. I hesitate to ask for a tutor because I believe that means I am unable to learn the required course material myself.	SA	A	D	SD	
34. I prefer to seek help from my program instructors instead of from peer tutors when I need help with my coursework.	SA	A	D	SD	
35. The tutors I've worked with have not been helpful to me.	SA	A	D	SD	
36. Visually impaired students should meet as a group to talk out problems and share solutions.					

(over)

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
PART I (continued)					
37. I prefer to seek help from a peer tutor when I need help with my coursework.	SA	A	D	SD	
38. I have difficulty getting transportation to and from the College.	SA	A	D	SD	

PART II: SMJC Environment

1. In what situations have you encountered problems that you had difficulty resolving to your satisfaction?

2. Has help been available to you when you needed it?

IMPACT STUDY EVALUATION QUESTIONNAIRE

PART III: SMJC SERVICES/RESOURCES

St. Mary's has provided and adapted a number of services and resources in order to facilitate your learning.

1. Which of these services and resources are most helpful to you? (Check as many as apply).

__________ Taping Services

__________ Testing Services

__________ Visiting a clinical site during the summer orientation session.

__________ Instructor awareness of visual impairments

__________ Tutors.

__________ Reader Referral Service

__________ My program faculty

__________ Audiovisual Department (Learning Center)

__________ Science laboratory adaptations

__________ Other (please specify) ______________________________

____

2. What services and resources are least helpful to you?

3. What additional services and resources do you think the College should make available to you?

4. What changes should St. Mary's make to more effectively meet the needs of visually impaired students?

(use space on next page if needed)

FALL/WINTER
1979-80

ST. MARY'S JUNIOR COLLEGE

IMPACT EVALUATION STUDY

Faculty Questionnaire

Fall, 1979

Directions:
Please indicate how much you agree or disagree with the following statements by circling one response for each statement.

Space is provided to the right of each statement for comments.

Your responses will be anonymous.

PART I
Circle the program in which you teach:

SEA PTA OTA GE MRT

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
1. It is difficult for me to find non-visual ways to communicate concepts and principles to the visually impaired students in my class(es).	SA	A	D	SD	
2. It is appropriate for me to ask one visually impaired student about the behavior of other visually impaired students who are in my classroom.	SA	A	D	SD	
3. Visually impaired students should seek help early on with the work from my class(es), before they are in serious difficulty.	SA	A	D	SD	
4. I should identify the visually impaired students publicly at the first meeting of my class(es).	SA	A	D	SD	
5. Visually impaired students are responsible for letting me know if the instructional materials provided for my class(es) are adequate.	SA	A	D	SD	
6. Except for their visual impairment, visually impaired students are just like other SMJC students.	SA	A	D	SD	

(over)

IMPACT EVALUATION STUDY QUESTIONNAIRE

PART I (continued)	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
7. I expect visually impaired students in my class(es) to do better (performance, attendance, assignments, etc.) than the sighted students in my class(es).	SA	A	D	SD	
8. I should report the behavior and progress of my visually impaired students to the Director of the Visually Impaired Project.	SA	A	D	SD	
9. The instructional changes I have made to accomodate the visually impaired students in my class(es) have enhanced the quality of the instruction.	SA	A	D	SD	
10. Visually impaired students in my class(es) require too much extra instructional time from me.	SA	A	D	SD	
11. I expect the same level of performance from the visually impaired students in my class(es) I expect from the sighted students.	SA	A	D	SD	
12. I should be compensated, over and above my academic contract, for the additional time I must spend instructing visually impaired students.	SA	A	D	SD	
13. Visually impaired students receive too much help from tutors.	SA	A	D	SD	

(over)

PART I (continued)	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
14. Blindisms (e.g., turning away from me when I am talking with them) of the visually impaired students in my classroom are distracting to me.	SA	A	D	SD	
15. Because of the testing process used with visually impaired students, I must prepare my exams too far in advance.	SA	A	D	SD	
16. Faculty should be responsible for monitoring the satisfactory progress of the visually impaired students in their class(es).	SA	A	D	SD	
17. Visually impaired students in my class(es) contribute to the learning of the sighted students who are in the same class.	SA	A	D	SD	
18. My classroom is disrupted by the presence of the visually impaired students.	SA	A	D	SD	
19. I view the Director of the Visually Impaired Project as a resource for solving instructional and technical problems for the visually impaired students.	SA	A	D	SD	
20. I have difficulty getting in touch with visually impaired students when I need to talk with them.	SA	A	D	SD	
21. Visually impaired students in my class(es) ask me to make too many exceptions for them.	SA	A	D	SD	(over)

PART II: SMJC ENVIRONMENT

1. In what situations have you encountered problems working with visually impaired students that were difficult to resolve to your satisfaction?

2. Has help been available to you when you needed it?

PART III: SMJC SERVICES AND RESOURCES

St. Mary's has provided and adapted a number of services to facilitate the instructional process for our visually impaired students.

1. Which of these services or resources are most helpful to you? (Check as many as apply.)

   ________ taping services
   ________ testing services
   ________ tutoring
   ________ referral services
   ________ Other (please specify ________________________________
   ____

   ________ Jim Sevdy's expertise
   ________ Science Lab adaptations

2. Which of these services or resources are least helpful to you?

3. What additional services or resources should St. Mary's make available to you as an instructor?

4. What changes should St. Mary's make to more effectively meet the instructional needs of visually impaired students?

Fall/winter
79-80

ST. MARY'S JUNIOR COLLEGE

IMPACT EVALUATION STUDY

Tutors Questionnaire

Fall, 1979

Directions:
Please indicate how much you agree or disagree with the following statements by circling one response for each statement.

Space is provided to the right of each statement for comments.

Your responses will be anonymous.

PART I

	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
1. I am unsure about what to do when visually impaired students are unwilling to do their assignment before a tutoring session with me.	SA	A	D	SD	
2. I prefer that visually impaired students ask for help far enough in advance so I can organize my time.	SA	A	D	SD	
3. I don't know how much help to offer the visually impaired students I tutor.	SA	A	D	SD	
4. When I help a visually impaired student, I don't know if I should respond as a counselor or as a friend.	SA	A	D	SD	
5. I am interested in further exploring the possibilities of friendship with the visually impaired students I tutor.	SA	A	D	SD	
6. I am confused about when to intervene with a visually impaired student during tutoring.. .. as soon as a mistake is made or after the whole skill is completed.	SA	A	D	SD	
7. I need to know more about how to effectively orient the visually impaired students I tutor.	SA	A	D	SD	

(over)

PART I (continued)	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS
8. Visually impaired students should have an opportunity to evaluate their tutors performance just as their tutors evaluate their performance.	SA	A	D	SD	
9. Visually impaired students are responsible to ask for help when they need it.	SA	A	D	SD	
10. I feel frustrated when visually impaired students do not keep their appointments with me.	SA	A	D	SD	
11. The instructional changes I suggest for the visually impaired student(s) I'm tutoring are not taken seriously by the Director of the Visually Impaired Project.	SA	A	D	SD	
12. Tutors of visually impaired students should be given training to increase their knowledge of the teaching-learning process.	SA	A	D	SD	
13. Tutors of visually impaired students should be given training to increase their knowledge of visually impaired persons.	SA	A	D	SD	
14. I sometimes feel I'm giving too much help to the visually impaired student(s) I tutor.	SA	A	D	SD	
15. There is no resource person or place for tutors to get advice and support in dealing with the problems of tutoring visually impaired students.	SA	A	D	SD	

(over)

PART I (continued)	STRONGLY AGREE (SA)	AGREE (A)	DISAGREE (D)	STRONGLY DISAGREE (SD)	COMMENTS:
16. I feel free to use the counselors as a resource in dealing with the problems I encounter tutoring visually impaired students.	SA	A	D	SD	
17. I consider myself an advocate of the visually impaired students I tutor.	SA	A	D	SD	
18. I have difficulty getting in touch with visually impaired students when I need to talk with them.	SA	A	D	SD	

(over)

IMPACT EVALUATION STUDY QUESTIONNAIRE

PART II: SMJC ENVIRONMENT

1. In what situations have you encountered problems working with visually impaired students that were difficult to resolve to your satisfaction?

2. Has help been available to you when you needed it?

ST. MARY'S JUNIOR COLLEGE
2500 South Sixth Street
Minneapolis, Minnesota 55454
(612) 332-5521

October 3, 1977

Dear Clinical Supervisor:

As you know, St. Mary's Junior College is coordinating a project to demonstrate and evaluate the feasibility of training blind persons in the two-year technical level allied health programs in occupational therapy, physical therapy, and two other selected fields. This project has received a great deal of national interest since the recent enactment of Section 504 of 1973 Rehabilitation Act, which prohibits discrimination against handicapped persons. We view the project as a good opportunity to gather important information that can be used by the allied health field as it deals with the implications of the new law.

Your facility has been selected as a clinical site for a visually impaired student. We view information regarding a visually impaired student's ability to cope with a clinical setting as quite valuable. Therefore, we have enclosed a questionnaire. Please complete the questionnaire and return it to St. Mary's Junior College at the end of the clinical experience.

If you need any additional information or have any concerns about the students, please call me at 332-5521, extension 375.

Sincerely,

(signed)

James Sevdy, Coordinator
Allied Health Project

JS:cs

Enclosure

ST. MARY'S JUNIOR COLLEGE
2500 South 6th Street
Minneapolis, MN 55454

Questionnaire for Clinical Supervisors

1. What were some of your apprehensions about supervising a visually impaired student in a clinical experience?

2. What were some of the major problems you expected to occur in the clinical experience?

3. What major problems did occur in the clinical experience?

4. How were the problems overcome?

5. Do you feel that any changes you had to make in the clinical experience, due to problems, compromised the experience.

6. How successful was the clinical experience?

7. What was the reaction of the patients and other staff to the visually impaired student?

8. From this experience, how do you perceive a visually impaired person's ability to meet the role expectations of a therapist assistant in the field?

[Please return this questionnaire to James Sevdy at the above address.]

100% response rate
Spring, 1979

ST. MARY'S JUNIOR COLLEGE
IMPACT EVALUATION STUDY

CLINICAL SUPERVISORS' QUESTIONNAIRE

Directions: Please respond to the questions below based on your experience supervising a visually impaired student from St. Mary's Junior College in a clinical setting.

---

1. Did you have some initial apprehensions about supervising the clinical experience of a visually impaired student?

____No

____Yes

If yes, what were some of your apprehensions?

2. What changes did you make in the clinical experience before the visually impaired student arrived?

3. What problems actually occurred during the clinical experience?

4. What action did you take to resolve these problems?

5. What changes did you make in the clinical experience due to the problems that occurred?

6. Do you feel the adaptations you made to accomodate the visually impaired student changed the quality of the clinical experience?

7. Do you feel the clinical experience was successful for the visually impaired student?

8. How did the other clinical staff react to the visually impaired student during the clinical experience?

9. How did the patients react to the visually impaired student during the clinical experience?

10. Prior to and during the placement of the visually impaired student, St. Mary's faculty, clinical coordinator and the Blind Project Coordinator provided various kinds of assistance to you. Please check the kinds of assistance you received and indicate how helpful this assistance was to you.

____ A. Film: "What To Do When You Meet a Blind Person". ____________________

____ B. Videotape of Blind Therapist: ____________________

____ C. Pre-clinical mobility orientation: ____________________

____ D. One to one discussion with Blind Project Coordinator of how to work with a visually impaired student: ____________________

____ E. Equipment modifications: ____________________

____ F. Pre-clinical discussion between visually impaired student and clinical supervisor: ____________________

____ G. Problem solving meetings with program faculty: ____________________

____ H. On site visits by Clinical Coordinator: ____________________

____ I. Pre-clinical discussions with Clinical Coordinator: ____________________

____ J. Other: ____________________

11. What could St. Mary's have done to increase the effectiveness of this clinical placement?

12. Do you believe visually impaired persons will be able (with some employer accomodations) to effectively carry out the role of a therapist assistant in the field?

IMPACT EVALUATION: Data Summaries

St. MARY'S JUNIOR COLLEGE

Memo

JANUARY 26, 1979

TO:

FROM: Maureen O'Brien

RE: FALL QUARTER SUMMARY
Impact Evaluation Study: Visually Impaired Students

Thank you for returning a completed questionnaire fall quarter. As you may remember, questionnaires were completed by freshmen visually impaired students, as well as their instructors and tutors. The information gathered from the questionnaires is reflected in the attached summary.

Thanks again for your time.

JANUARY 22, 1978

TO: FACULTY ADVISORY COMMITTEE TO THE BLIND PROJECT

FROM: Maureen O'Brien

RE: IMPACT EVALUATION STUDY: FALL QUARTER SUMMARY

As you may recall, a study designed to measure the overall impact of enrolling visually impaired students in St. Mary's OTA and PTA programs was carried out last spring by Bill Stockton. As a consultant to the Blind Project, Stockton developed an impact analysis model and conducted the preliminary data collection to determine the impact of the visually impaired students during the first year of the Blind Project. His analysis of the data revealed those "critical" points within the existing SMJC environment through which visually impaired students must progress (promotion, application, orientation/evaluation, registration, coursework, competency tests, placement and job performance). These then are the critical points of impact that will be periodically monitored to discover present and potential problem areas. Thus, the critical points analysis model is anticipatory in nature--uncovering additional data sources that develop as the impact of visually impaired students spreads throughout the College.

The next step in the evaluation procedure was to develop questionnaires, based on the preliminary data analysis, to systematically monitor the critical points of impact and gather additional information about new problem areas. This then became my responsibility. Fall quarter I developed questionnaires which were administered to freshman visually impaired students, as well as their peer tutors and teachers. The results are summarized below by the group from which the data was collected.

VISUALLY IMPAIRED STUDENTS

Based on their responses overall, the VIS seem rather flexible in dealing with the problems they encounter in St. Mary's environment. A strong majority of the VIS indicated that the adaptive instructional equipment provided is adequate and that the Director of the Blind Project responds adequately when they encounter equipment difficulties. For problems that arise in their classroom and laboratory sessions, VIS indicated they would seek help first from their instructors, then from other students in the class/lab and then from Jim Sevdy/Cathy Reimer. All of the VIS agreed that they are responsible to ask for help when they need it. In order to know how fast they should be learning a particular skill, VIS need feedback on how other VIS are doing in learning the same skill. Take home-type tests or study assignments that require a lot of reading cause additional problems for two-thirds of the VIS. All of the respondents agreed that they should have an opportunity to evaluate their peer tutor's performance just as the tutors evaluate their performance. Regarding the orientation/evaluation session for VIS, one-third of the respondents feel they shouldn't have to demonstrate their skills for sighted audiences and that the session was scheduled too late for them to consider choosing other programs or schools.

More than half the respondents indicated they had difficulties with the registration process but only twenty percent of the VIS indicated a preference for registering before all other SMJC students. Unless they are in their offices, VIS had problems reaching their instructors. One VIS indicated difficulty finding out where his/her instructors' offices were located. Finding out about student activities going on in the College was a problem for over half of the VIS.

The following services/resources provided by the College were cited as most helpful by the VIS: taping of tests and books, clinical visit during summer orientation, instructor awareness, tutors, program faculty, the AV Department and the science lab adaptations.

FACULTY

An analysis of the questionnaire data revealed that faculty seem to treat VIS just as they would their sighted students and have become used to the presence of VIS in their classrooms. Faculty indicated that they have the same expectations of the VIS in their classes as they do their sighted students. VIS are also expected to let faculty know if the instructional materials provided for their classes are adequate. However, some faculty find it difficult to discover non-visual ways to communicate concepts and principles to the VIS in their classes. Blindisms of the VIS in their classes are distracting to some faculty. Almost all faculty agree that the VIS in their classes contribute to the learning of the sighted students in their classes.

Faculty disagree about the relationship of the Director of the Blind Project to the VIS in their classes. A majority of the faculty feel they should not report the behavior and progress of their VIS to the Project Director and indicated that the Project Director should be responsible for monitoring the satisfactory progress of the VIS in their classes. The testing process set up for the VIS continues to be a problem for faculty since exams must be prepared so far in advance.

Of the services/resources provided to facilitate the instructional process of the VIS, faculty cited the following as most helpful to them: testing, tape services, tutoring, the science lab grant and Jim Sevdy's expertise. Faculty suggested the following as additional services the College could provide: 1) help with the coordination of testing services; 2) a one-hour meeting that presents the most common instructional modifications that are available to faculty and how they work; 3) speech processors to aid VIS in review listening.

TUTORS

From their responses to the questionnaire, peer tutors seem to hold the same expectations for the VIS they tutor as they do for the sighted students they tutor. Tutors indicated they know how much help to offer VIS, when to intervene in teaching VIS and feel that VIS are responsible to ask for help when they need it. Tutors feel they know enough about visually impaired persons and how to effectively orient the VIS they tutor. In dealing with problems they encounter tutoring VIS, tutors feel free to seek help from College counselors.

Tutors disagreed about whether there was a resource person or place they could go to get advice and support in dealing with the problems they encountered tutoring VIS. Half the tutors feel they should be given training to increase their knowledge of the teaching/learning process.

IMPACT EVALUATION: Papers

Design and Implementation of an Institutional Impact Analysis

DESIGN AND IMPLEMENTATION OF AN INSTITUTIONAL IMPACT ANALYSIS

William Stockton

Preliminary Findings

Educational Development Office

St. Mary's Junior College
Minneapolis, Minnesota

August 1978

NOT TO BE CITED OR QUOTED WITHOUT
WRITTEN PERMISSION FROM THE AUTHOR

This project was completed under
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DHEW

CONTENTS

INTRODUCTION III

Description of Institutional Impact Analysis Project

Objectives of the Project

History of the Project

Objectives and format of this report

MODELS FOR INSTITUTIONAL IMPACT ANALYSIS 4

Operations Impact

Planning model
Impact analyzer

Critical Points Analysis

Critical points graphic
Impact network
Impact matrix
CCC (Consensus/conflict/confusion) matrix
Relationship analysis format

DATA ANALYSIS 15

Relationship Analysis 16

Critical Points Analysis 28

Summary

RECOMMENDATION AND CONCLUSIONS 34

Recommendations for restructuring relationships

Recommendations regarding critical points

Recommendations regarding design of survey instrument

Conclusions 44

INTRODUCTION

DESCRIPTION OF PROJECT

This is a report on the first phase of a project to assess the impact of introducing visually impaired students into two allied health programs at St. Mary's Junior College. The project was begun at the end of the first year of a federally funded, innovative program in which six visually impaired students (VIStudents) began training as physical therapy assistants and occupational therapy assistants (three in each program). As with any innovative program, there were unanticipated problems and opportunities that arose in the process of implementation. Thoughtful administrators recognized the potential value of a kind of institutional impact analysis that would anticipate and uncover "critical points" at which the impact would need to be monitored as the project unfolded. This would differ from existing, retrospective evaluation models which are not predictive. If such an assessment model could be developed, it would help prevent a crisis management approach to administering innovative programs. An institutional impact analysis would also provide invaluable guidance, cautions and encouragement to those in other institutions who might undertake similar programs.

HISTORY OF PROJECT

This somewhat vague sense of hope and possibility motivated the initial meeting from which this project emerged. It was attended by the Director of Educational Development, the Associate Director of Educational Research and the project consultant. It was recognized that a model for impact analysis would have to be developed since no satisfactory methodology existed. This, therefore, became the first order of business. It was decided that the project would proceed as an orderly grope. Possible models would be developed, evaluated and modified until a potentially workable formulation emerged. If we were successful, the next step would be to test the model in a preliminary analysis of the impact during the first year of the program. If this pilot proved productive, the next step would be to design an instrument for a full scale impact analysis. Since the initial meeting was held in March (1978), time was an important constraint. The piloting needed to be completed before the end of the school year if the full scale impact analysis were to begin in the fall.

Other constraints existed which limited the preliminary research effort. Since the first year of operations was nearly over, events and associated problems of the first term, and before, were but memories gratefully fleeing. Two of the six VIStudents had already left the program. The winding down of the school year, with taking of tests and the making of plans for summer and the following school year, absorbed the energies of students and faculty. It was anticipated that perceptions of past and persisting problems in the programs under study would differ from informant to informant, but there would be little opportunity for the consultant to test these perceptions against other data. Still it was believed that a significant effort was warranted, and the preliminary results seem to confirm this early hope.

In the initial formulation of responsibilities, the consultant was to assist in the development of the conceptual model for institutional impact analysis, and, if that were successful, he would become responsible for conducting the preliminary impact analysis. The data was to be gathered through participant observation, structured and unstructured interviews, and examination of documents and other recorded data. In fact,the scope of this preliminary study narrowed somewhat as a function of available time and money. The initial phase has been successfully completed and is the subject of this report.

OBJECTIVES OF PROJECT

From these first efforts to formulate the purposes of the project, the following objectives emerged:

1. To develop a model appropriate for measuring the impact of introducing VIStudents into allied health programs at St. Mary's Junior College.
2. To implement the institutional impact assessment model to produce a description of the impact during the first year of the program which would be useful (a) for program management and (b) for communicating critical information to others who might want to adopt similar programs.
3. To identify "critical points" in the program and in the process of implementation which would be important to monitor systematically.
4. To design a system for periodic monitoring of the impact of the programs on the institution.

The first three of these objectives have now been largely completed.

OBJECTIVES AND FORMAT OF REPORT

The purpose of this report is (1) to outline the model for institutional impact analysis that was developed for the project, (2) to present an analysis of the data gathered about the impact of the first year of the project, and (3) to offer observations and recommendations that will be useful for decision-making about program modification and for designing the formal survey instrument to be used in the fall. Following this introduction, the report is organized into three major sections focusing on the impact analysis model, the analysis of the data, and recommendations. A bibliography of sources found useful in this study is appended though it is only a partial listing. A full discussion of the model and its uses in the context of the developing state of the art will be treated in a forthcoming paper. Therefore,the intention in the following section is to provide an economical account of the components of the methodology and their use in the study. Some readers may wish to move directly to the analysis of the substantive finding and the recommendations .

A MODEL FOR INSTITUTIONAL IMPACT ANALYSIS

The following description of the models developed for conducting an institutional impact analysis has been written as economically as possible. It will acquaint the interested reader with the general framework which guided the collection and analysis of the data. The intention is to provide the minimum text necessary to clarify an essentially graphic presentation of the components of the methodology and to comment on their use in the study.

Two general strategies for developing an impact analysis were recognized early as different and complementary, but only one has been explored systematically to date. Least tested is what we have come to call the Operations Impact Analysis model. This is the attempt to measure the direct impact of the planned, and therefore anticipated, events in the introduction of VIStudents into the two programs. The second strategy, the Critical Points Analysis model, was more fully explored because of the immediate need to discover unanticipated impacts on programs. It was hoped that areas of problem and opportunity could be identified quickly in order to remedy and monitor future impacts at these points. These critical points would be of special interest to prospective administrators of such programs because they may well represent points of danger and opportunity for them as well.

This section of the report will provide a very brief outline of the proposed model for operations impact analysis first. This will be followed by a somewhat fuller account of the critical points analysis which guided this research.

OPERATIONS IMPACT ANALYSIS

The model for operations impact analysis is an adaptation of a widely used planning technique, PERT-charting.[1] It involves two steps.

Operations Impact Chart

It is possible, in theory at least, to develop a graphic layout of a project plan similar to that illustrated in figure 1. The lettered nodes (A, B, C ....) represent a series of events that have been anticipated in the plan for implementing the project. These events are organized in the chart to show the temporal sequence in which the events must occur and may occur. For example "B" must occur after both "A" and

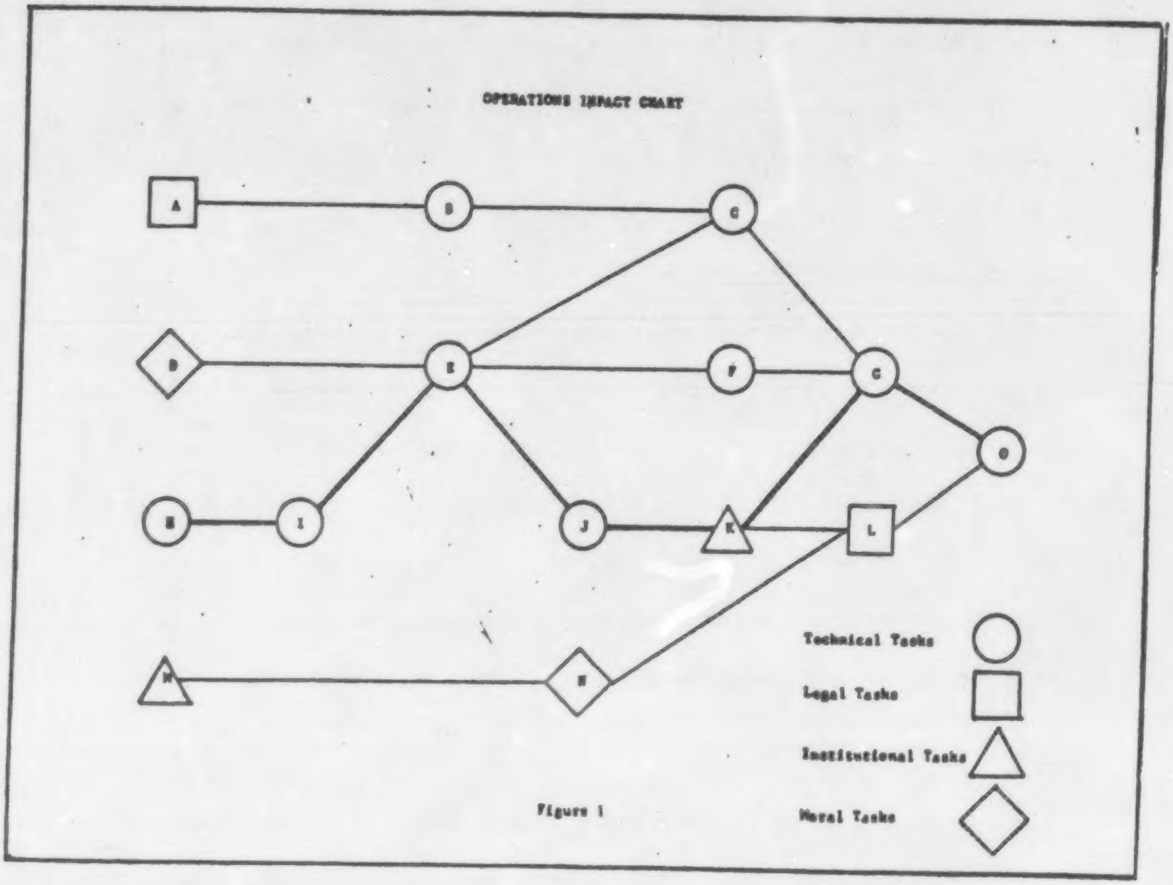
OPERATIONS IMPACT CHART
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
Technical Tasks
Legal Tasks
Institutional Tasks
Moral Tasks

Figure 1

"E". However many events can be occuring at the same time. For example "D", "H", and "M" may be completed simultaneously with "A". Using the PERT technique it is possible to estimate the time required for each event in order to determine the sequence demanding the most time, the critical path. This is useful for suggesting the optimal allocation of resource, e.g. keeping the "critical path" on schedule by working the other tasks in when possible.

This charting technique would be the first step in an operations impact analysis, but even taken alone it would be of benefit to any potential manager of a similar project. An operations impact chart, refined by experience, would provide realistic estimates of the time required for planning and implementing the project. The nature of the tasks involved would suggest a rough estimate of the feasibility of a similar project in a different instituional setting.

A chart like the one suggested in figure 1 could outline not only technical tasks required for success but also the legal, institutional (bureaucratic and political), and even moral requirements which experience would recommend. These considerations could easily be communicated by a series of overlaying transparencies. Further insights could be suggested by additional charts contrasting the way events actually occured with an alternative, recommended strategy based on experience.

Impact Analysis Matrix

The second step in an operations impact analysis is to place each task from the chart (A,B,C ...) in a matrix (see figure 2) which systematically generates the following questions:

IMPACT ANALYSIS MATRIX

Planned Events

Impacts

	A	B	C	D	E	F	G	...
WHO								
WHEN								
WHERE								
HOW (techniques)								
HOW (materials)								

Figure 2

1. WHO will be involved in each event?
2. WHEN will those involved be scheduled?
3. WHERE will they need to meet to be effective?
4. HOW will the task be done (techniques required)?
5. HOW will the task be done (materials required)?

If each event were analyzed in this general way, the basic outline of the direct impact of the plan on institutional operations would begin to be clear. It would be possible to extend the analysis to a consideration of the secondary impact of each event. For example what would the involvement of those identified for a particular event mean for their effectiveness in handling other, routine responsibilities?

Though it is easy to depict the general outline of an operations impact analysis in these two steps, it would be far from easy to carry it out. The effort to reconstruct an operations impact chart from the perspective of one year was abandoned in this study because too much information had been lost or would be too costly to retreive. It would seem clear, however, that such a chart, refined by experience, would be extremely valuable to anyone interested in introducing a new program of a similar nature into their institution. To have developed even the planning model, the first step of the analysis in detail, would be a very useful exercise in anticipating critical points of impact for monitoring. The chart amounts to a detailed hypothesis that could be analyzed from the perspective of one year as a means of checking and shaping administrative intuitions about critical points. Of course in a pilot project it would be impossible to anticipate all critical points, but a record of anticipations and corrections would be useful for many purposes.

CRITICAL POINTS ANALYSIS

The objective of the critical points analysis model is to identify those features of the program that create unanticipated problems or opportunities. The operations impact chart (figure 1) provides a convenient temporal framework along which observations about critical points in implementation can be mapped, but it is not as relevant to the mapping of unanticipated critical points in the ongoing program which emerge after implementation.

Critical Points Diagram

Figure 3 is a schematic outline of the sequence of occasions that make up the programs studied in this research. Similar flow charts could be constructed for any program. Unlike the operations impact chart, this is an outline of a *repeating* system of interactions and is of special interest because critical points along this flow of occasions represent *recurrent* moments of problem and opportunity. These critical points can become the basis for the design of an ongoing monitoring of

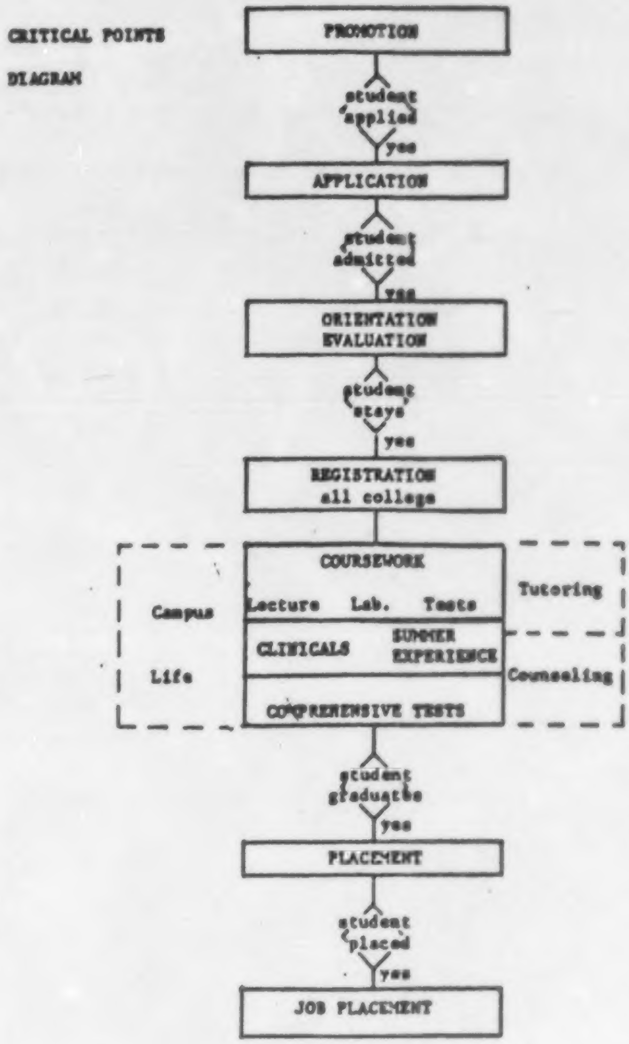
CRITICAL POINTS
DIAGRAM
PROMOTION
student applied
yes
APPLICATION
student admitted
yes
ORIENTATION EVALUATION
student stays
yes
REGISTRATION all college
COURSEWORK
Lecture
Lab.
Tests
Tutoring
Campus
Life
CLINICALS
SUMMER EXPERIENCE
Counseling
COMPREHENSIVE TESTS
student graduates
yes
PLACEMENT
student placed
yes
JOB PLACEMENT

Figure 3

the programs. This was the originating idea in the early discussions. If this project could provide a means of identifying both unique and recurring critical points, then timely administrative actions could be planned to avoid problems and cultivate opportunities for achieving the goals of the program. The critical points diagram provide a convenient way to display the critical points after they have been discovered. It is a map of the potential, recurrent critical points in the programs.

Impact Network

In order to consider all areas of potential critical points, a relationship matrix was created. Figure 4 displays the network of social identities, or statuses, that were involved in the impact of VIStudents.

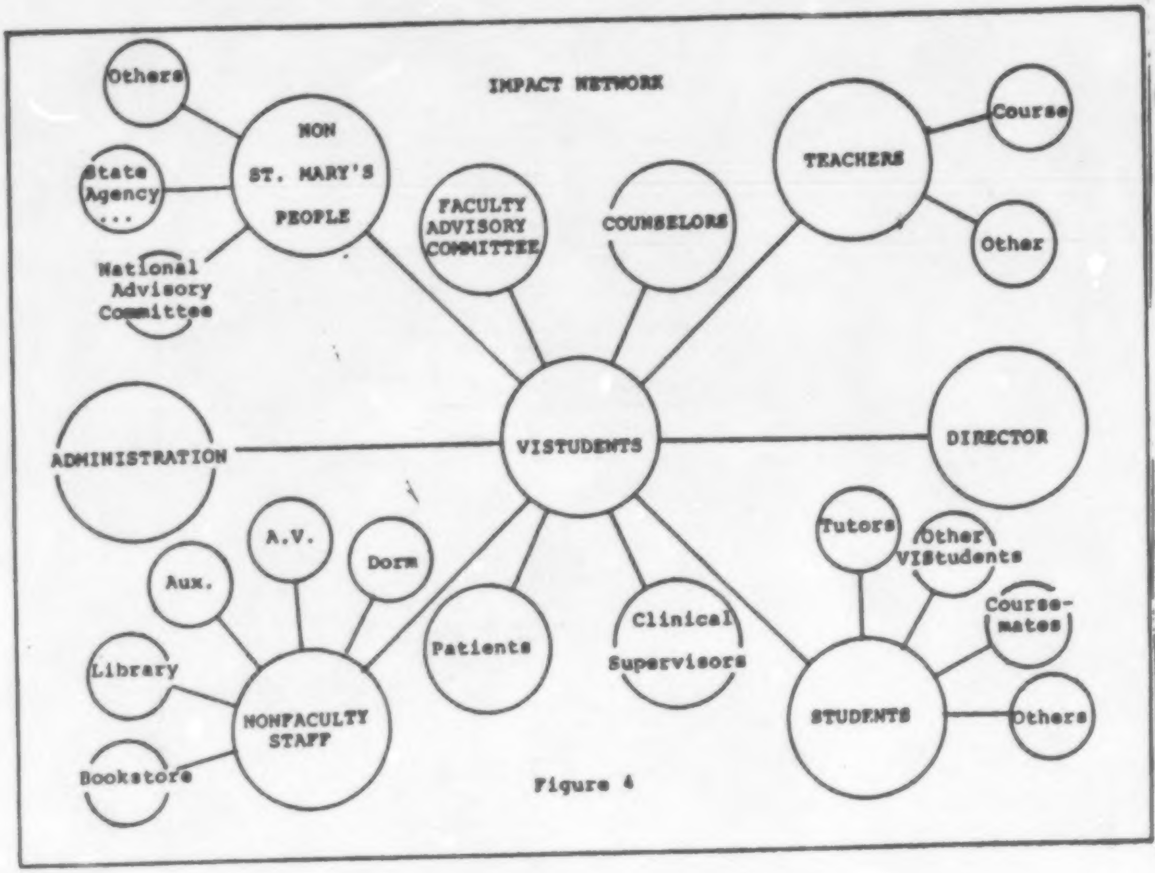
IMPACT NETWORK
Others
NON ST. MARY'S PEOPLE
State Agency ...
National Advisory Committee
FACULTY ADVISORY COMMITTEE
COUNSELORS
TEACHERS
Course
Other
ADMINISTRATION
VISTUDENTS
DIRECTOR
A.V.
Aux.
Dorm
Library
Bookstore
NONFACULTY STAFF
Patients
Clinical Supervisors
Tutors
Other VIStudents
Course-mates
STUDENTS
Others

Figure 4

It is organized around the impacting identity, VIStudents, and all of the social identities with whom VIStudents must and might establish relationships were identified. This network is relatively easy to elicit from participants, and there was wide consensus among informants.

Impact Matrix

Once the relationship network is identified it is possible to develop a graphic outline of the potential social impact (see figure 5).

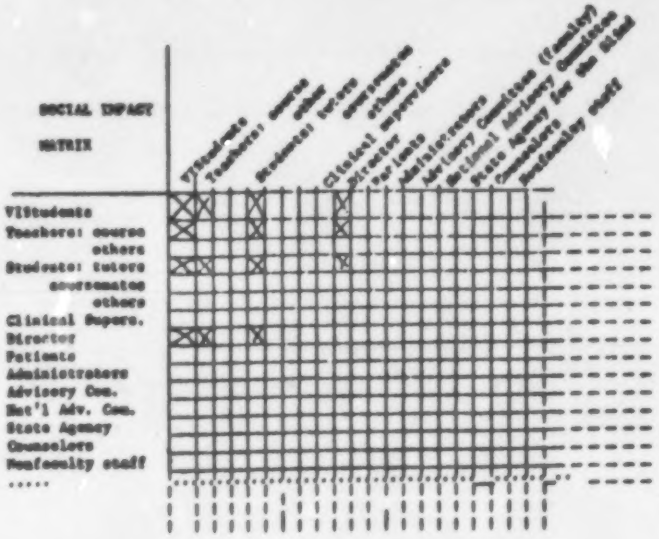
SOCIAL IMPACT
MATRIX
VIStudents
Teachers: course
other
Students: tutors
coursemates
others
Clinical supervisors
Director
Patients
Administrators
Advisory Committee (Faculty)
National Advisory Committee
State Agency for the Blind
Counselors
Nonfaculty staff
VIStudents
Teachers: course
others
Students: tutors
coursemates
others
Clinical Supers.
Director
Patients
Administrators
Advisory Com.
Nat'l Adv. Com.
State Agency
Counselors
Nonfaculty staff
.....

Figure 5

Since this area of potential impact is very wide indeed, it was necessary to make some preliminary guesses as to which would be the most productive to explore. The decision was made to do a preliminary study of relationships among four of the social identities: VIStudents, teachers, tutors, and the director of the project. The area explored is indicated by "x's" in figure 5. The purpose of the exploration was to gather preliminary data that would help to identify potential critical points which could be a guide for the design of the more formal, quantitative assessment of the larger area of impact.

CCC Elicitation Frame

The interviewing and other data gathering was structured by a general elicitation frame illustrated in figure 6. This framework provides a systematic perspective for exploring expectations in any relationship in order to discover areas of consensus, conflict and confusion. Data which fall in cells two, three, and four are prime

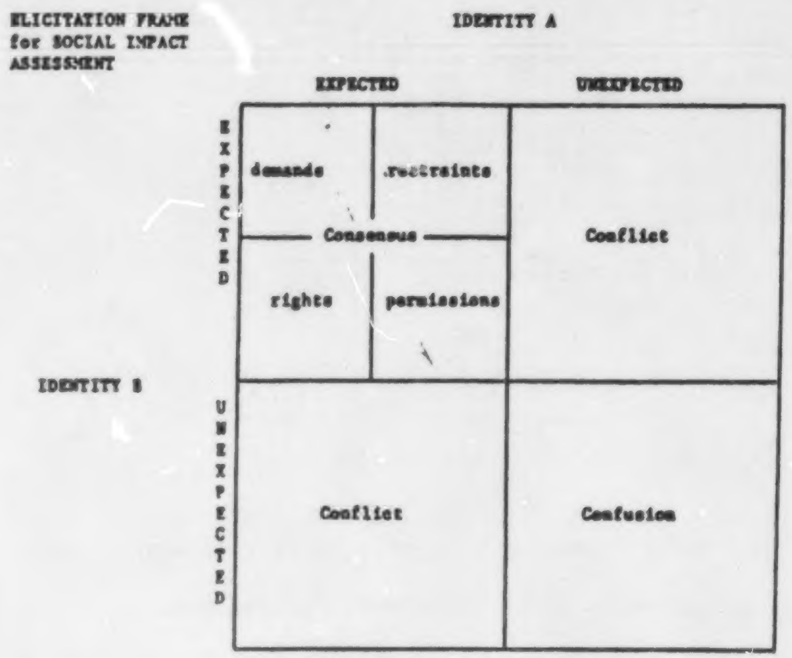
ELICITATION FRAME
for SOCIAL IMPACT
ASSESSMENT
IDENTITY A
EXPECTED
UNEXPECTED
EXPECTED
demands
restraints
Consensus
rights
permissions
Conflict
IDENTITY B
UNEXPECTED
Conflict
Confusion

Figure 6

indicators of critical points of problem within a program. In the interviews each of the occasions along the critical points diagram (see figure 3) was explored with informants using this frame as a guide to elicitation. Questions were generated to explore each of these three cell (conflict and confusion). It is important to note that each relationship needs to be examined from both ends with each informant. It is possible that VIStudents may report conflicts which, say, teachers do not even perceive, and the reverse may occur as well. Therefore it is important to ask what every informant underctands the expectations of the other to be.

After each interview the information was analyzed and placed into the four cells. Then information from all informants of each identity were aggregated to produce one chart, organised within the CCC frame (figure 6) for each identity.

Relationship Analysis Format

The simple format in figure 7 was used to provide a convenient

EXPECTATIONS

Identity A	Identity B
(demands)	
(restraints)	
(rights)	
(permissions)	

Figure 7

summary of the areas of conflict and confusion within each relationship. It displays contrasting perceptions and indicates where additional information needs to be gathered. From among these conflicting and confusing expectations, the critical points in the relationships were expected to become clear. These could then be mapped onto the critical points diagram to provide a basis for administrative monitoring and remedy.

Summary

This brief description of the rationale, models and techniques used to elicit, gather and organize data for this project will be expanded in a forthcoming paper. It is hoped that the reader will have a clear basis, from this account, of the approach to the objectives identified at the outset. The following section of the report presents the data gathered according to the plan outlined here.

---

[1] Cook, D.L., PERT: Applications in Education. OE-1214, Cooperative Research Monogr. No. 17. Washington, D.C.: Government Printing Office.

NOTE: A bibliography of relevant literature will be included in the promised paper.

SUMMARY

This analysis was designed to identify critical points in the impact of VIStudents on St. Mary's Junior College. The four impacted relationships investigated were found to have differing areas of conflict and confusion. In general, however, it seemed clear that much of the confusion arose from a desire by all parties to avoid offense. The substantive issue was how much accomodation is appropriate to varying degrees of visual impairment. Important differences in perceptions and expectations were not clearly communicated and, therefore, remain unresolved. No effective process exists for clarifying these conflicts and confusions or for dealing with the resulting frustrations. The relationship between the director and VIStudents appears to be most in need of attention. Additional critical points in the implementation and operation of the program have been outlined in detail. It is apparent that the impact has been different on the OTA and PTA programs, but there seem to be good reasons to expect that the difficulties can be remedied.

The analysis stressed areas of problem and concern, but there is cause to celebrate the results of the first year as well. Four of the six students have deepened their commitments to their programs, are happy with their teachers and appear likely to succeed. Tutors found the year challenging and satisfying. The major adaptations needed for the success of VIStudents during the first year have now been identified and put in place by the Director. This coming year should allow him needed time for refinement of existing solutions. Especially to be noted is the work of the faculty advisory committee for the project and the administrative skill and commitment of the chief administrator whose intuitive assessment of critical points has summary of the areas of conflict and confusion within each relationship. It displays contrasting perceptions and indicates where additional information needs to be gathered. From among these conflicting and confusing expectations, the critical points in the relationships were expected to become clear. These could then be mapped onto the critical points diagram to provide a basis for administrative monitoring and remedy.

Summary

This brief description of the rationale, models and techniques used to elicit, gather and organize data for this project will be expanded in a forthcoming paper. It is hoped that the reader will have a clear basis, from this account, of the approach to the objectives identified at the outset. The following section of the report presents the data gathered according to the plan outlined here.

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[1] Cook, D.L., PERT: Applications in Education. OE-1214, Cooperative Research Monogr. No. 17. Washington, D.C.: Government Printing Office.

NOTE: A bibliography of relevant literature will be included in the promised paper.

DATA ANALYSIS

Introduction

The following analysis is a synthesis of a great amount of raw data. This pilot study, however, was a clinical investigation of the institutional impact of VIStudents on St. Mary's. It was not intended to be experimental or correlational research. Anthropoligical field methods were employed along with a variety of standard social research techniques to develop recommendations for the design of a systematic, statistical analysis of the impact of VIStudents on the program. Since the sample of informants was small, there is no good reason to emphasize numbers in presenting the information.

The results of the relationship analysis are reported first in narrative form. This data is then supplemented as a basis for analyzing the critical points in the programs. Other observations are offered at the end of the section, but the intention is to organize the analysis in a way that will provide the clearest sense of the critical points in the relationships and in the program. It should be possible to move easily from this analysis to the design of a formal survey instrument and to recommendations for responding to documented problems and opportunities.

RELATIONSHIPS ANALYSIS

Relationships among your key social identities in the institution were selected for investigation: VIStudents, teachers, tutors and the Project Director. The relationships are discussed in an order that begins with the least critical to the most critical (in the researcher's estimate). Each relationship will be described first in terms of the points of conflict and confusion. Then areas of consensus and satisfaction will be briefly discussed. Comments that refer only to OTA or PTA programs will be specifically marked. The impact on the two programs was quite different and should be noted. However, this report is intended to provide a perspective that focuses on the broader impact.

The data analyzed in this analysis come primarily from in-depth interviews with selected informants, but many other kinds of information were gathered as well. These include:

1. Observation of faculty advisory board meetings.
2. Interviews with 5 of the 6 VIStudents.
3. Interviews with tutors from both programs.
4. Interviews with teachers from both programs and from a general science course.
5. Reading of minutes of departmental meetings and other documents.
6. Extensive conversations with administrators involved.
7. Extensive interviews with the Director of the project.
8. Reading in the related literature.

RELATIONSHIP ANALYSIS

Relationships among the four social identities investigated were analyzed on the basis of 10 taped semi-structured interviews, limited participant observation and several hours of informal conversation with the director. The formal interviews included:

5 VIStudents (3 PTA, 2 OTA)
3 Teachers (PTA, OTA, and General Education)
5 Tutors (3 PTA, 2 OTA)

Expectations in the relationships among these four identities will be described from two points of focus, (1) areas of conflict and concern and

(2) areas of consensus and affirmation. Conflicts and confusions in expectations will be analyzed into two main categories: obligations (expectations regarding what must or must not be done) and opportunities (expectations regarding what is permitted or possible) In describing areas of consensus and affirmation, stress will be placed on opportunities discovered and explored. Whenever an observation or generalization is relevant primarily to one of the two programs, the appropriate designation (PTA or OTA) will follow the statement.

VIS RELATIONSHIP WITH TEACHERS

From the perspective of both VIStudents and teachers, the area of greatest confusion was in reaching an understanding about the degree of accomodation appropriate to the disability of the VIStudent. There were widely varying beliefs about this issue, and VIStudents differed as much with each other as they did with teachers and tutors. The extent of these differences among VIStudents, teachers and students was not widely appreciated. Among both VIStudents and teachers it was sometimes claimed that VIS should be treated as any other student, but this was not taken in its literal meaning by anyone when asked specifically about totally blind students. It is really a matter of the proper degree of accomodation. To illustrate this point, some teachers (OTA) were concerned about the amount of help that the tutors were giving to some VIStudents in their program. For the VIStudent to request that tutors locate information appropriate to a questions or study objective was seen as inappropriate, even ethically suspect. Other teachers (PTA and GE) were concerned only that the students learn the materials and any amount of help was appropriate. (The issue is more complex than portrayed here, but it will be considered in more detail later.) On the other hand, some VIStudents wished no tutoring help at all. Another refused the proffered privilege of learning what was missed on a test when it was learned that the policy of the teacher was not to share test results with sighted students. By contrast, another VIStudent lined up 4 or 5 unofficial tutors to supplement the official tutoring that was being received. With the caveat that all generalizations are subject to such qualifications, the following seem to be warranted conclusions regarding the mutual expectations of teachers and VIStudents.

There were several other areas in which teachers and VIStudents appeared to differ in their expectations. With regard to obligations, teachers reflected very few concerns. There was some confusion about the appropriate response to "blindisms" of one of the totally blind students. Some of these mannerisms, such as failing to maintain a face to face head orientation in conversation or appearing to fall asleep in class, were distracting to both teachers and other students. Teachers agreed that they were responsible for helping VIStudents to bring these "blindisms" under control. But teachers were unclear as to how they should handle these, especially in a classroom situation. Teachers were also bothered by special demands that VIStudents made, to know whether and how far to bend the rules to accomodate special needs (OTA, GE). This was particularly true with testing, initially at least. Until the system of taped exams was perfected, there was much discomfort with the process of orally administered exams. It was too difficult not to be overly helpful to VIStudents who asked for clarification. Concern was also expressed about the amount of teacher time required for counseling and guidance of VIStudents (OTA, GE). In the classroom, it was difficult to know how to balance the relative needs of VIStudents and sighted students. A disproportionate amount of time was taken by VIStudents for counseling regarding inadequate work compared to sighted students in the same program (OTA). This was unexpected in its dimensions. Another point of confusion for teachers was whether to identify VIStudents publicly at the beginning of a class.

The greatest difficulty for teachers, however, was the reluctance of the students to come for help with their studies before serious problems developed. (OTA and G.E.). It was the teachers' expectation that the students would come for help if they had a need. Instead, they found that it was necessary to seek out students who were having trouble after the difficulty was identified through testing or in their assigned work. This is a point of confusion that runs through relationships between VIStudents and teachers, tutors and the director.

From the perspective of the VIStudents, teachers fell short on several counts. They felt it inappropriate for teachers to be asking them about the behavior or problems of other VIStudents, for example, why wasn't a particular individual in class. They also felt irritation at the oversolicitiousness of certain teachers in asking whether materials or other conditions were okay. It was their assumption that they would be responsible for indicating when materials were not adequate. There was a consensus among the VIStudents that it was not appropriate for teachers to be giving reports of their progress and behavior to the project director. This was complicated by the fact that the director often responded to such information from teachers with pressure to perform better. In some cases, the teachers felt this conflict strongly and reluctantly offered only general evaluative information.

Despite these areas of concern, the VIStudent-teacher relationship had the fewest conflicts of those explored and there was much cause for satisfaction. Only the OTA program is an exception to this generalization, and the lack of affirmation there is probably understandable on other grounds (see item 4 Critical Points Analysis). Teachers found it difficult but eventually rewarding to struggle with the problem of finding nonvisual ways to communicate concepts and principles. The need to use a much more verbally descriptive presentation was recognized and responded to. VIStudents were often used in demonstrations of new techniques in lectures and/or situations. This allowed them to learn from tactile cues while providing a visual illustration for sighted students at the same time. Teachers were pleased with the way some VIStudents shared freely in small groups concerning their medical history and present situation. One VIStudent showed how to braille in a science unit on the senses. Teachers reported that sighted students were drawn into the effort to discover ways to communicate ideas to VIStudents and became very creative in their efforts.

VISTUDENTS RELATIONSHIP WITH TUTORS

With one exception the tutors for VIStudents had no previous experience in working with blind or visually impaired persons. Their responsibilities in the program appeared to present them with more difficulties and frustrations than most of the teachers experienced. In general, they were younger than the VIStudents and, although they were in their second year of their program, some had fewer years of formal education than the VIStudents they were tutoring. Despite the conflicts and concerns they experienced, they were unanimous in claiming that their involvement in the tutoring program had been interesting, enlightening and satisfying.

The area of greatest conflict and concern in this relationship again was about the amount of help that was appropriate to offer or request. Tutors were confused about their obligation to ask VIStudents whether or not they wanted tutoring. In some cases, they were finally told by the director and teachers to wait until the VIStudents initiated a request. Initially, there was a tendency for tutors, by their own judgement, to anticipate VIStudents needs too much. This was especially true of those working with totally blind students. They warned too often of obstacles in the cluttered lab spaces and provided too much direction in learning of the skills. There was also initial concern about whether it was okay to use "visual" metaphors in conversation like, "you see what I mean" and "blind alleys". They soon learned that no offense was taken at such language. There were further effective ways of orienting blind students. Using a clock model to locate objects in space worked for some students but others didn't like the idea. When a student was learning a skill involving a series of steps, it was unclear whether the tutor should intervene immediately, when a step was mistaken, or wait until the end of the effort. The tutors were also frustrated by the unwillingness of some VIStudents to listen to appropriate tapes before they began their tutoring sessions. They felt powerless to insist but were unsure what to do about it. They also mentioned frustration with last minute requests for assistance. They much preferred to have VIStudents initiate requests for help so that they could organize their time far enough ahead to be available.

VIStudents had a variety of problems in the tutoring relationship. They seemed generally tolerant of the tutors' tendency to be oversolicitous. But an older, totally blind student, who had previously completed a four year degree, objected to being assigned tutors in the first place. Another VIStudent, who was losing her vision, felt the need for more tutors and managed to organize a cadre of her own. One VIStudent had difficulties scheduling tutoring time and was irritated by the tutor's use of the demands of another job as an excuse. Since the tutors were paid for their tutoring, the demands of another job were not felt to be legitimate This pertained to only one tutor, however. Otherwise the only concerns mentioned by VIStudents regarding tutors was frustration caused by not keeping appointments, being too busy to schedule appointments and shifting appointments at the last minute. Most of these complaints had to do with a very limited number of VIStudent-tutor relationships.

Another problem was a basic ambivalence in the tutor-student relationship. The tutors were being paid to help, but both the VIStudents and the tutors seemed interested in exploring the possibilities of friendship but were tentative in their efforts. This ambivalence was confounded by the fact that tutors were asked to write an evaluation of the VIStudents they helped, but theirs was no reciprocal evaluation. This ambivalence expressed itself in the tutors' confusion about how to respond to the frustrations that VIStudents faced in some of the learning tasks. When the frustrations were expressed, it was sometimes didifficult for tutors to know whether to respond as a friend or as a counselor.

Both tutors and VIStudents expressed general satisfaction with the opportunities that their relationship provided. Tutors found the performances of the blind students remarkable from the beginning. They were aware of the many stereotypes they had discarded as they came to recognize VIStudents as persons. They expressed a concern about the problems ahead for the students they had tutored, but they were confident that, somehow, ways would be found by the VIStudents to solve those problems as well. Several friendships did emerge from the experience and there was good will apparent all around. Tutors seemed to be especially appreciative of the opportunity, however vicarious, to experience learning from such an altered perspective. They agreed that they would eagerly seize any future opportunities to work with individuals who are visually impaired or otherwise handicapped, both professionally and personally.

VISTUDENTS RELATIONSHIP WITH PROJECT DIRECTOR

The director of this project was originally assigned responsibility for preparing the adaptations necessary for introducing the visually impaired students, overseeing the process of selecting and orienting students for the programs and monitoring their progress through the first year of the program. He would then be responsible for adapting other programs in the college for the entry of other VIStudents. His expectation was that he would be largely responsible for the technical adaptations of the programs to suit the needs of this different population. He was hired because of his expertise in making such adaptations. Subsequently, funding decisions outside of the institution limited the plans to phase in new programs and his responsibilities were refocused toward monitoring and consolidating the progress made in the OTA and PTA programs.

It is in the VIStudent relationship with the Project Director that conflicting expectations seem most critical. The major complaints of the VIStudents center on the technical difficulties they encountered with the adaptive equipment and on their inability to get the taped materials when needed. As the history of each complaint was traced, it became clear that there appeared to be reasonable explanations for each of the difficulties. The problems seemd to be within the range of expected, unpredictable problems in a year of starting a new project. From the perspective of many of the VIStudents, their problems were not being adequately responded to. They felt that they received an inadequate response to their requests for technical assistance. They received neither satisfaction nor adequate explanation. Early in the first quarter all of the blind students met with the director to discuss their problems. They detailed, through their spokesperson, their complaints and requests. In the opinion of the spokesperson, who said she was left alone although all had agreed to speak before the meeting, those requests were never adequately responded to. (these will be detailed at a later point). Throughout the year, there were difficulties in obtaining tapes of reading materials at the time that would be most convenient and necessary. Some VIStudents also expressed their dislike of the monitoring of their performance that was carried out by the director through conversations with teachers. They felt that their performance was a matter between themselves and the teacher. They particularly resented those occasions in which the director would confront them with problems that teachers had not first discussed directly with them (OTA). They thought that the pressure the director placed on them to improve their performance was inappropriate,especially his appeal to the "good of the program" and of blind people generally.

The director believed that insofar as possible VIStudents should be treated as sighted individuals. He believed that they should be held responsible in the same way. It was his expectation that if the VIStudents had personal or technical problems, they should be responsible to bring them to him to act upon. He perceived himself as a resource aid and counselor for them. This expectation was not shared by the students in the project. When he asked them if they were having any difficulties, they interpreted this to mean technical difficulties. They preferred not to share their personal problems with him. They also complained that when they did try to locate him, he was seldom in his office.

Due to the nature of the two programs, many more technical adaptations were necessary for VIStudents in the physical therapy assistant program. This, coupled with the fact that the director's office was located in the physical therapy classroom area, led OTA students to believe that he was less involved and interested in the OTA program. OTA students who were interviewed believed that the occupational therapy program was not adequately described in their initial orientation sessions. One VIStudent, interviewed after leaving the program, claimed that she was neither aware that she was getting into a program for the visually handicapped nor that occupational therapy assistants were involved with teaching patients. When pressed on this matter, she conceded that this may have been touched on but that neither of these two crucial facts were clear to her when she entered the program. They were important to her decision to leave.

It appears that the major area of consensus is that the director is responsible for the provision of the technical accomodations for students in the program. Since this was also an area of concern for VIStudents, their affirmation of the relationship lacked enthusiasm. It was impossible to determine the facts of this matter at the end of the year, but it seems probable that the provision of technical assistance is a factor that creates dissatisfaction when absent, but adds little satisfaction when present. This relationship appears to be an area of missed opportunity. The director was willing and eager to offer both technical and personal assistance when requested, but he assumed that it was the students' responsibility to ask for help. Students saw him only as a technical resource. Their lack of initiative in asking for personal help was in turn interpreted as the absence of need. The explanation is more complex than this, as will be indicated later, but this is an area of conflict that needs attention.

The director's evaluation of the relationship is a mixed one. Students in one of the programs performed very well indeed. The difficulties in the other program he accounts for by factors outside of the relationship. He is satisfied with his relationship with students in the PTA program and regrets the loss of the two students in the other program. He sees the difficulties he experienced with students in OTA as a matter of personality differences, students' motivational problems and their lack of accomodation to their own blindness.

SECONDARY RELATIONSHIPS

To this point the relationship analysis has considered the points of direct impact of VIStudents with the institution; VIStudents with teachers, tutors and the project director. Additional perspective can be achieved on the relationships among those impacted by VIStudents when the tutor-teacher, tutor-director, teacher-director relationships are considered together. The areas of conflict and concern are very limited in these secondary relationships. The new director was able to establish good relationships with teachers and they considered him a valuable resource. Since they were aware of the problems of turnaround time in submitting materials to the audio-visual department, they were sympathetic with his difficulties in getting materials taped and to the students on time. This, of course, was their major area of concern, especially as it related to the problem of testing. By the end of the year there was consensus that the testing problem had pretty much been solved. It was also expected that the material preparation problem would be much less severe in the second year since the process to be used had become clear to those involved. Teachers were initially concerned about the problem of preparing testing materials several weeks in advance in order to provide the director with copies so that the tests could be taped. This was especially a problem for new teachers who were preparing their course materials for the first time.

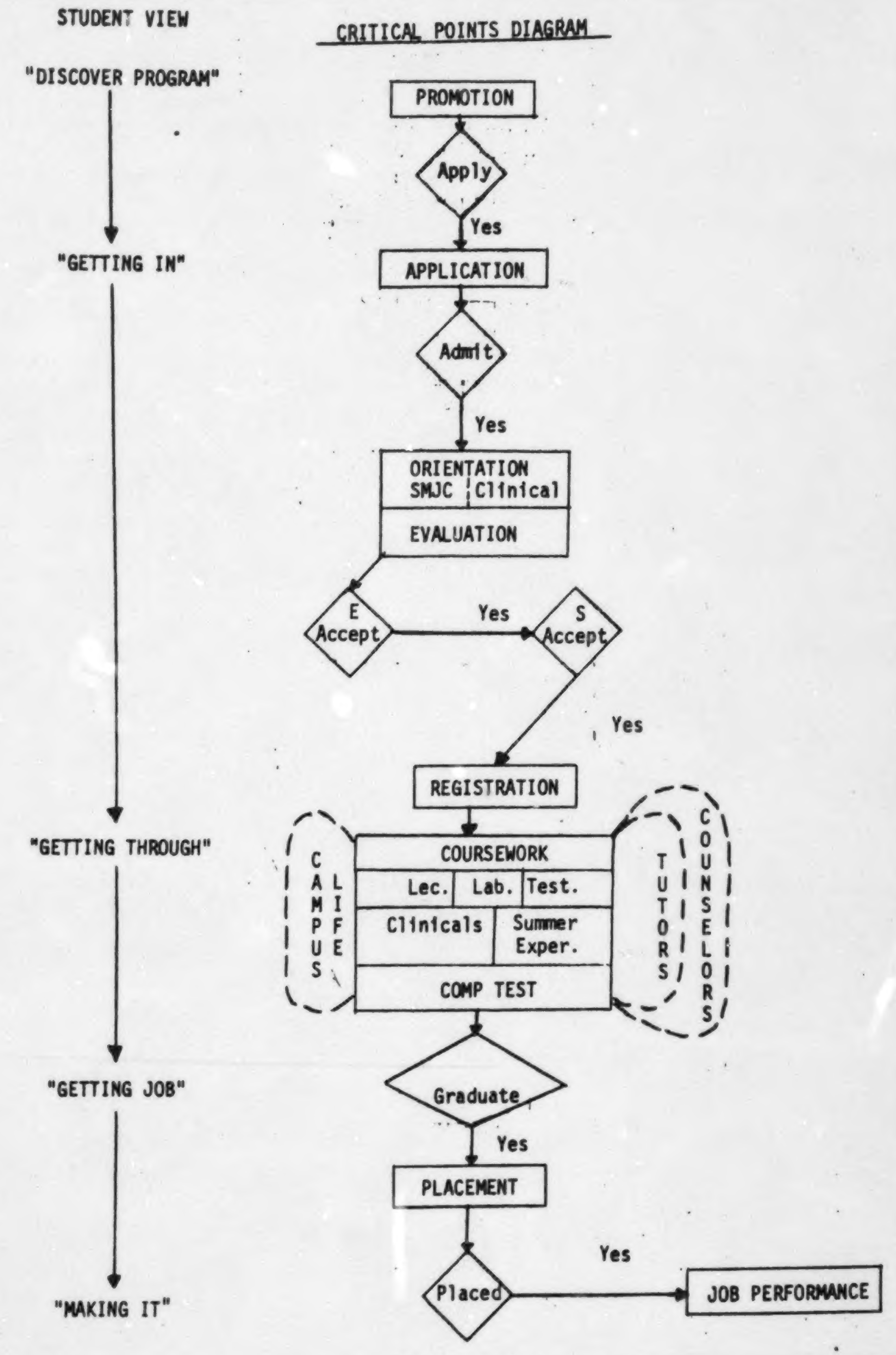
From the teachers' point of view, the director was a resource for solving technical problems of instrumentation and instruction and was able to help them structure their expectations about what was appropriate for VIStudents. They had few complaints and much praise for his efforts. The OTA and PTA teachers were aware that problems existed in the relationship between VIStudents and the director but seemed unclear about the substance of the conflicts.

The tutors had informal and relatively infrequent contact with both the director and the teachers of the VIStudents they tutored. Generally the tutors checked upcoming test schedules with teachers and occasionally shared observations and concerns about their tutoring experience or brushed up on a technique grown rusty. The tutors appeared not to draw on the director as a resource for solving the learning problems involved in assisting the VIStudents. They seemed to share some perceptions of the VIStudents about the director of the project. The OTA tutors agreed that the director seemed to spend most of his time with the PTA program. There was also a feeling that their suggestions were not taken seriously regarding curricular matters. For example, when a question was brought to the director about altering one students' curriculum plan, he responded by hiring consultants to do what the tutors felt competent to do themselves. The tutors felt that their initiatives were not respected. It is perhaps worth noting that the tutors did not go to either teachers or to the director for help with problems that arose regarding personal frustrations in the tutoring situation.

One final note is worth making about the relationship between VIStudents and sighted students. It has already been noted that VIStudents shared the experience of their disability with sighted students in some of the classroom activities. However, it was observed by some of the blind students that they sensed a distance between themselves and sighted students. They felt that they were always expected to be the ones to initiate interaction in a new situation. This was also a complaint with the appearance of two of the blind students at several meetings for the purpose of demonstrating their capabilities in the skills which they had been learning. The students' feeling was that they would rather not do this and that it was making too much of their disability. In responding to such situations, they were likely to comment that they are just like everyone else except that they could not see. It was no big deal.

CRITICAL POINTS ANALYSIS

The critical points analysis diagrammed in the figure following, is the description of the flow of social occasions for the programs impacted. They represent the potential locations of critical points that need monitoring by the formal impact analysis system. The diagram is a useful way of analyzing the data from the interviews and from other sources regarding the problems that are potentially critical for the success of the project.



CRITICAL POINTS DIAGRAM

STUDENT VIEW
"DISCOVER PROGRAM"
"GETTING IN"
"GETTING THROUGH"
"GETTING JOB"
"MAKING IT"
PROMOTION
Apply
Yes
APPLICATION
Admit
Yes
ORIENTATION
SMJC
Clinical
EVALUATION
E Accept
Yes
S Accept
Yes
REGISTRATION
CAMPUS
LIFE
COURSEWORK
Lec.
Lab.
Test.
Clinicals
Summer Exper.
COMP TEST
TUTORS
COUNSELORS
Graduate
Yes
PLACEMENT
Placed
Yes
JOB PERFORMANCE

Critical Points	Problems
Promotion	1. VIStudents did not adequately understand the nature and demands of the program (OTA).
Application	No problems were discovered.
Orientation/Evaluation	2. The orientation/evaluation session was scheduled too late for prospective students to choose other programs or schools.
	3. Students were unclear about what to expect at orientation/evaluation. This was a missed opportunity for greater depth in the evaluation of VIStudents.
	4. Dropouts from this year's VIStudents were seen as selection problems, i.e., they should not have gotten into the programs in the first place.
	5. There was no significant interaction between VIStudents and counselors during the sessions.
	6. An opportunity was missed to clarify expectations regarding major features of the programs, teacher characteristics, available resources and expected learning styles.
	7. Some VIStudents expressed concern that they shouldn't have to demonstrate their skills for sighted audiences.
Registration	No problems were discovered.
General Orientation	8. Because of the VIStudents preregistration, the general orientation was described as a waste of time. This was a missed opportunity for valuable VIStudent-sighted student mutual orientation.
Coursework	9. The general problem regarding coursework was in establishing responsibility and initiative for identifying trouble before it is "too late" to remedy.
Classes & Labs	10. VIStudents preceived delay in materials preparation and equipment malfunctioning as a major difficulty.
	11. VIStudents disliked public identification as handicapped students.

Critical Points	Problems
Classes & Labs (continued)	12. VIStudents needed to have a different reference group from sighted students for measuring the speed of mastery. They needed to know how other VIStudents were doing.
	13. "Take home" type tests or study assignments requiring synthesis of a great amount of text resulted in special (time) problems for VIStudents.
	14. Teachers were unsure how to assist VIStudents to develop awareness of and control over blindisms in the classroom situation.
	15. Teachers were concerned they were spending too much time with VIStudents.
	16. Teachers were uneasy about giving VIStudents' progress information to the Director when students objected.
Tutoring	17. Teachers and tutors were concerned about providing too much help with tutoring.
	18. Tutors were inexperienced in relating to visually impaired persons.
	19. Tutors were unclear about their responsibility and right to have a say in the curriculum decisions about the VIStudents they were tutoring.
	20. Tutors were inexperienced in instruction.
	21. There was no resource for tutors for advice and support in dealing with frustrations of tutoring.
	22. There was no way to solve disputes or disagreements between VIStudents and tutors such as VIStudents not completing assignments or a tutor not keeping appointments.
	23. VIStudents objected to tutor evaluation of their performance without opportunity to evaluate tutor performance.
Testing	Problems Solved.

Critical Points	Problems
Clinicals	No information
Summer experience	No information
comprehensive test	No information
Placement	No information
Job Placement	No information

been largely confirmed by this research. The advisory committee is a very creative and committed group of faculty who put great energy into resolving the issues that arise and into providing support where there is need. Despite the emphasis in this report on conflict and confusion, many critical points were obviously attended to effectively to produce a successful first year of operation.

RECOMMENDATIONS

The presence of VIStudents in St. Mary's has produced some troubles and discomfort because the usual expectations about the student's role do not fit in some obvious and other not so obvious ways. The major resulting conflicts and confusions have been outlined. In this section recommendations are made for dealing with the problems associated with these conflicts and confusions. First, recommendations are offered for structuring and restructuring expectations in the major relationships that have been affected. The second set of recommendations are structured around the critical points analysis. Finally, recommendations are offered regarding the design of the formal survey instrument for monitoring the future impact of the VIStudents on the program.

The general problem expressed by teachers, tutors and others involved with VIStudents centered around how much and how they should accomodate to their special needs. One of the forms which conflicting and confusing expectations took was a reluctance on all sides to bring up the problem or issue. The assumption underlying all of the following recommendations is that in this situation, the best strategy for all parties in clarifying the special needs of VIStudents would be to do the following:

1) Ask them whether they need help.
2) Ask how you could best help.
3) Negotiate differences between the request and what you can or believe you ought to offer.

Where the answer is not clear, there should be a process established for examining and deciding about the issues. This strategy can be applied to isolated scenes such as meeting a blind student in the hall or providing tutorial help. If this strategy had been widely adopted, it would probably have helped to dispel the sense of isolation that some VIStudents felt and overcome the hesitation and indecision of sighted students and teachers about how to act. Because there are wide individual differences among VIStudents both in the degree of their visual impairment and in their desire for special accomodation, the only general guidelines that can be set have to do with the limitations on assistance that St. Mary's may decide on as a matter of policy or because of resource limitations. Within these limitations, a process will have to be established for reaching such decisions.

RESTRUCTURING RELATIONSHIPS

Three major recommendations concern the restructuring of roles and the creation of new structures. This restructuring should have the effect of allowing the formal structure of expectations to more nearly conform to the informal structure. It should also provide an opportunity for a more creative involvement of tutors, teachers, counselors and VIStudents to approach the problems of learning as opportunities for growth.

The first recommendation is to drop the expectation that the Director be the one primarily responsible for instructional and personal counseling of VIStudents. When this occurs naturally, it is to be recommended, but the director should no longer feel the primary responsibility for the the welfare of the students in the program. This expectation has created a classic role conflict situation. It is not possible for him to be a disinterested counselor of VIStudents when he is primarily responsible for the success of the program. His other responsibilities, especially with regard to problems related to materials preparation and equipment adaptations and maintainence, require careful attention in the next year. He should be used as a very valuable resource in problems of instruction whenever possible.

The second recommendation would be to involve the counselors more intimately in the project beginning with the orientation/evaluation session. Special attention should be given to monitoring possible problems of the new VIStudents in the first term. The counselor can be a disinterested advocate of the VIStudents and a valuable resource for the tutors as well. The role of the counselor is detailed in the Critical Points Recommendations following this section. It should be emphasized that a counselor with special knowledge about the special learning styles and needs of visually impaired individuals would be an invaluable resource.

A third recommendation is for the creation of a study skills center for VIStudents and their tutors. It is clear from the analysis of the data that the special problem of instructing VIStudents fell heavily on tutors with little experience in instruction as well as little, or no previous experience with visually impaired individuals. Tutors had to adapt and invent solutions to problems much of the time. This situation can be taken as an opportunity to help tutors, VIStudents and others who want to become involved to become knowledgeable about the instructional process and the special needs of the visually impaired. Many possibilities can be imagined for such a center. It would provide a place for counselors to develop practical expertise in these matters and to conduct research of great practical importance.

A director would be necessary to make the study center function effectively. It would be helpful if he/she were to have special expertise, but practical experience and special effectiveness as a facilitator and coordinator of resources would be adequate, at least in the beginning. Specific recommendations regarding the director and the functions of the center are identified in the following section.

CRITICAL POINTS RECOMMENDATIONS

The recommendations offered in this section suggest possibilities for responding to the problems associated with each occasion in the critical points analysis. The recommendations are not related in a one to one correspondence with the problems that were stated. However, the recommendations, as a whole, speak to all of the problems identified.

Critical Points	Recommendations
Promotion	1. Examine the promotional literature now made available to state counselors and others who might inform potential students to see whether the key features of the programs are identified as well as the minimal expectations of St. Mary's: - willingness to be identified as visually impaired. - willingness to assist sighted students and others in relating to their impairment. - willingness to accept the limitations of available resources. - willingness to deal explicitly with "blindisms", etc.
Application	2. When application is made by VIStudents, it would be possible to provide a tape which would include a more detailed account of existing programs along with commentary by teachers, VIStudents, tutors and other relevant indificuals. This would provide a standard presentation that would ensure that all prospects have had an opportunity to become aware of the program in detail.
Orientation/Evaluation For VIStudents	3. The reverse side of the application tape could also include a preliminary set of questions which prospective VIStudents should consider before coming to the Orientation/evaluation session. This would be a kind of homework. It could include a few of the vignettes (see p42.)

Critical Points	Recommendations
Orientation/Evaluation For VIStudents (continued)	which they would be expected to discuss in the session. It could include a set of self assessment questions which could be used as a basis for a self-description which they could write or present orally at the orientation/evaluation session. 4. If possible the orientation/evaluation sessions should be scheduled early enough that students who are screened out, or who choose not to register, could have time to enter other programs. 5. It would be important to have teachers of the first year program courses in the evaluation sessions in order to assess students, set expectations and allow students to raise questions and make their own assessments. 6. Information should be offered VIStudents not only about the adaptations that have been made but also about the problems inherent in the preparation of materials and the vulnerability of equipment. The possible responses to anticipated problems should be outlined and discussed. 7. Counselors should be involved in this process. Perhaps the counselors who will be working with the students interviewed should be involved as an observer until near the end. Then he/she could explain his/her role and offer observations and discussion of the VIStudent's experience in the orientation/evaluation session.
Registration	There were apparently no problems here.
General Orientation	8. The VIStudent project offers opportunities for mutual orientation of sighted and VIStudents by: - showing the State Services for the Blind film. - discussion of vignettes - role playing.(reversal) - video tapes of VIStudents at work.. If introduced properly in the context of the humanizing philosophy and goals of St. Mary's, the project is an illustration of the effort to facilitate the development

Critical Points	Recommendations
General Orientation (continued)	of persons with differing human potential.
	9. It should be kept in mind in planning any VIStudent-sighted student sessions that there is resistance by VIStudents to being made a special case in public. Any plans ought to involve VIStudents in the planning at least as consultants.
Coursework	10. In general, tutors and students agreed that winter quarter for PTA was a heavy load, and VIStudents should not take additional coursework if possible.
	11. Initiative for asking for assistance should probably belong to VIStudents. They should be made aware of this responsibility in orientation. But in the first term, it seems critical that a disinterested party, probably the counselor, should take the initiative in detecting early signs of trouble. This should be understood by the VIStudents as the counselor's right. This would help to prevent discovery of problems too late to remedy. The tutors should feel free to use the VIStudent's counselor as a resource too.
a. classes/labs	12. Teachers should be attentive to their role as models for sighted students, especially in the first days of class. If they would: - announce their name when greeting blind students, - provide orientation and guidance to VIStudents when needed (for example, in finding empty seats) In a matter-of-fact way, without making public discussion of VIStudent's presence in class, it would probably help sighted students to take similar initiatives.
	13. If "take home" questions are handed out by teachers requiring survey of large amounts of reading, it would seem reasonable to indicate the appropriate pages to VIStudents or to expect tutors to identify the appropriate information.

Critical Points	Recommendations
a. classes/labs (continued)	14. When problems with materials or equipment occur, the nature of the problem should be clearly explained to VIStudents and either the project director or the study center coordinator should take the initiative to make necessary accomodations. (This shouldn't be left to VIStudents).
	15. Tapes that have been developed for the first year need to catalogued and placed in a study center library for use by VIStudents.
	16. When VIStudent equipment (personal) breaks down it would be good to get priority for repair at the Audio Visual department and/or be able to provide a loaner until repairs are accomplished.
	17. It would be helpful to mark and catalogue OT tapes and equipment for independent use by VIStudents in the program.
b. tutoring and study skills	18. The major recommendation for dealing with the problems of tutoring and improvement of study skills is for the establishment of a study center aimed primarily at the needs of VIStudents and their tutors. The center would need a coordinator but would also involve counselors and teachers in activities and in providing services. The center would: - orient new VIStudents and tutors to the tutoring process by clarifying expectations in the VIStudent-tutor relationship regarding scheduling, initiating offers or requests for assistance and negotiating problems in the relationship. - provide assistance to tutors and VIStudents regarding problems of instruction. - provide a place and invitation for VIStudents to get together for discussing effective study techniques (especially to help those who are experiencing a deterioration in their vision).

Critical Points	Recommendations
b. tutoring and study skills (continued)	- provide both tutors and VIStudents with methods for orientation and other instructional needs (use of clock image for placement, terms for proximal-distal locations,etc) that have been useful in the past. - Provide orientation for the next year's tutors in the spring when experienced tutors and VIStudents can assist in the program. - provide a library resource by cataloguing tapes for VIStudent use. - involve counselors in putting together research on visual impairment and learning styles and strategies.
	19. Both tutors and the coordinator of the study center should consider themselves advocates of VIStudents.
	20. The Advisory Committee for the project should consider the proper role, if any, of tutors in curriculum proposals for the VIStudents they are tutoring.
	21. Tutors and VIStudents they tutor should both provide evaluations of each other's performance. This wouldn't necessarily need to be written. It might be good to have the center coordinator conduct oral evaluation sessions that would be a learning session as well.
c. testing	22. The problem appears to be solved. The solution should be advertised to other programs in other institutions.
d. clinicals	No information.
e. summer experience	No information.
f. comprehensive test	No information.
Placement	No information.
Job Performance	No information.

Recommendations Regarding the Design of Impact Analysis Survey

To this point the recommendations offered concern the implications of this pilot study for improving the effectiveness of the project, but a major objective of this report is to provide a basis for designing a formal impact analysis instrument for more continuous monitoring. If the analysis of the data presented in the previous section is valid, it should provide two approaches for identifying critical points that need monitoring through a quantitative survey method. The critical points diagram provides a systematic description of points in the institutional process that seem worth monitoring through survey. The relationship analysis also provides a description of critical points in each major relationship that should be assessed by more quantitative methods. It would be a duplication of effort to list these points again as suggested foci for the design of the questionnaire. The recommendation would be to use the data analysis as a basis for generating survey questions.

There is another feature to the survey that is worth exploring. In the interviewing process it was always easier for informants to understand what I was refering to as relationship problems when I described a vignette like one of the following:

A. In a classroom situation, students are asked to pull their chairs into a circle for discussion. A VIStudent ends up in the middle of the circle as discussion begins. The teacher notices that the situation is somewhat awkward to all involved but nobody is saying anything. What should she do?

B. In the laboratory after class, students are working with the equipment to improve their skills. A blind student turns to make his way across the room to a piece of apparatus, but the room is cluttered with equipment. You can see that s/he is going to run into a table if she/he doesn't change his course. What should you do ?

C. A blind student is walking down the hallway using her cane. She approaches another student who doesn't know what to do and freezes in her tracks, saying nothing. What should she do ?

D. A teacher notices that she is distracted and annoyed by the habit of one of her blind students to turn his head away from her when they are in conversation. What should she do ? How ? Why ?

E. A sighted student is standing in the elevator with a visually handicapped student who is obviously having difficulty reading the buttons and the floor indicator lights. What, if anything, should he do ?

F. On the first day of classes, the lecture room has filled with students, but the teacher has not yet come into the room. A blind student enters and heads in the direction of the front seats nearly all of which are filled. As a student of the class, what should you do ?

Vignettes such as these help to assess the informants' general attitudes about offering assistance. They allow no right or wrong answer and would be useful for assessing and discussing attitudes significant to the success of the program. Such vignettes could be used in the design of the back side of the promotional tape sent to prospects. They could be used during both VIStudent orientation and evaluation and during general orientation. Similar vignettes, relevant to the tutoring situation, could be used in the orientation of tutors, especially in discussions with VIStudents. A set of vignettes would need to be elicited that would be more representative of the range of relationships in the social impact network and more representative of the range of visual impairment.

These kinds of vignettes would also represent an effective way to illustrate, for those interested in implementing such projects, the range of unanticipated outcomes that might otherwise not easily come to mind. There is an immediacy to the situations that invites involvement, and the responses seem to elicit basic values concerning human relationships.

Developing a survey instrument that would monitor the critical points in the program and explore attitudes about situations depicted in the vignettes would provide a rich and critical base of information from which to interpret the impact points critical to the success of the program.

CONCLUSIONS

The first phase of this project has successfully applied concepts and techniques from anthropology and related social science disciplines in the development of a methodology for institutional impact analysis. This was the first objective. The model has also been successfully implemented in part. To date an operations impact analysis has not been conducted, but the preliminary critical points impact analysis has been described in this report. It resulted in the detailed identification of critical points both in the impacted relationships and in the program and its implementation process. These areas of problem and opportunity have been identified in a way that allows for the design of a system for monitoring of the impact during the next years.

The limitations of this preliminary study have already been noted. The sample of relationships impacted by VIStudents was small, and the sample of individuals within these relationships was limited. However, the analysis provides a clinical probe of the impact that will greatly improve the validity of the design of ensuing quantitative analyses. The steps remaining to be taken before the objectives of this project can be said to have been met include:

1. Developing a survey instrument for the full scale critical points impact analysis.
2. Testing the feasibility and effectiveness of the recommendation offered in this report.
3. Implementing the operations impact analysis model for anticipating the impact of the next steps in implementation.
4. Presenting the results of the impact analysis to those who will be managing similar programs to test its effectiveness for communication and for anticipating critical points in other settings.

EVALUATING THE IMPACT OF INTRODUCING VISUALLY IMPAIRED STUDENTS INTO ALLIED HEALTH PROGRAMS

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Abstract

This paper discusses the results of the pilot implementation of an evaluation methodology developed to assess the impact of introducing physically handicapped students into allied health curricula. Recent federal legislation regarding handicapped persons assures that unique student populations will be seeking admission to educational programs in health fields. These students will place unforeseen demands on the educational systems they enter. An evaluative method that suggests anticipatory interventions was developed and used to measure the impact of visually impaired students on a college. This method also uncovered additional data sources that developed as the impact of these students spread throughout the college. The evaluative methodology developed should be useful to educators assessing the impact of new student groups.

Introduction

Increasing numbers of older, re-entry and second-career students are being sought by institutions of higher education. With the passage of federal legislation, the possibility of these non-traditional students being admitted has increased. Legislation regarding handicapped persons assures that this unique student population will also be seeking admission to educational programs. These new and unique student populations will put unforeseen demands on the educational systems they enter. Institutions of higher education must develop efficient, cost effective mechanisms by which the impact of these new students can be monitored and potential problems can be anticipated. If such an assessment mechanism could be developed, it would help prevent a crisis management approach to the administration of innovative programs. The predictive, anticipatory nature of this kind of an assessment mechanism would differ from existing, retrospective evaluation models that are not predictive.

Like other educational institutions, St. Mary's Junior College is also experiencing the enrollment of new and unique student populations. One channel through which handicapped students have been admitted to St. Mary's is through a three-year Rehabilitation Services grant designed to recruit and train visually impaired students in allied health curricula. Given the innovative nature of this training project, college administrators recognized the potential value of using an impact assessment model that would anticipate and uncover those critical points at which the impact of these visually impaired students would need to be monitored as the project progressed. The following sections of this paper describe the development and preliminary implementation of an impact analysis model, the methodology used to fully implement the model, implementation results, and a discussion of the useability of the methodology for other educational institutions.

Model Development

Although the first year of the project's operation was almost over, and much information had already been lost, an evaluation consultant was hired to determine the feasibility of developing and implementing an impact analysis model. The consultants' responsibilities included 1) the development of an institutional impact model to measure the impact of introducing visually impaired students into two allied health programs at St. Mary's; 2) the implementation of the model to produce a description of the impact of visually impaired students during the first year of the project; 3)identification of the critical points in the two programs--the occupational and physical therapist assistant programs--that would be important to monitor during the progress of the project; and 4)to design a system for the periodic monitoring of the impact of the project on the institution.

The consultant began by examining the environmental impact literature searching for possible strategies that could be used in attempting to predict future events. The existing strategies used to develop environmental impact analyses did not prove helpful. Taking a systems view of the college environment, the consultant developed and considered two general strategies for developing an impact analysis--the Operations Impact Analysis model[1] and the Critical Points Analysis model. The first of these involves the charting of a temporal sequence of tasks that have been anticipated in the plan for the implementation of a project. This model was not considered appropriate since it only included anticipated tasks and too much information had been lost since the project had already been underway for almost one year. Instead, the Critical Points Analysis model was developed to identify those features of the impacted programs that created unanticipated problems and opportunities for changes during the students' progression through the programs. Critical points were defined as those points in the existing institutional environment at which the visually impaired students are predicted to impact the system. The critical points of impact for the occupational and physical therapist assistant programs were outlined in the Critical Points Diagram (see Figure 1).

	VISUALLY IMPAIRED STUDENTS	TEACHERS: course	others	STUDENTS: tutors	coursemates	others	CLINICAL SUPERVISORS	PROJECT DIRECTOR	PATIENTS	ADMINISTRATORS	FACULTY ADVISORY COMMITTEE	NATIONAL ADVISORY COMMITTEE	STATE AGENCY FOR THE BLIND	COLLEGE COUNSELORS	NONFACULTY STAFF
VISUALLY IMPAIRED STUDENTS	X	X			X			X							
TEACHERS: course	X				X			X							
others															
STUDENTS: tutors	X	X			X			X							
coursemates															
others															
CLINICAL SUPERVISORS	X							X							
PROJECT DIRECTOR	X	X			X										
PATIENTS															
ADMINISTRATORS															
FACULTY ADVISORY COMMITTEE															
NAT'L ADVISORY COMMITTEE															
STATE AGENCY FOR THE BLIND															
COLLEGE COUNSELORS															
NONFACULTY STAFF															

Figure 2. Social Impact Matrix. (From "Design and Implementation of an Institutional Impact Analysis" by William Stockton, St. Mary's Junior College, 1978.

At each of these critical points of impact, the impacting social identity, that is, the visually impaired students, may interact with other social identities that are appropriate for the occasion. For example, at the critical point of Coursework-Lecture, a visually impaired student might interact with sighted students, other visually impaired students, and teachers. Among the social identities that are relevant at each critical point there exist expectations. An examination of the differences in expectations among the impacting social identities was intended to alert administrators to ongoing problem areas.

In order to discover all of the social identities with whom visually impaired students must and might establish relationships, a social impact network was diagrammed with visually impaired students at its center. The extent of possible relationships ranged from teachers and sighted students to the State Agency for the Blind. A social impact matrix was constructed to portray this relationship network. (see Figure 2).

The relationships among visually impaired students, teachers, peer tutors, the Project Director and clinical supervisors were explored. The consultant conducted the preliminary study of the relationships among the first four social identities through the use of semi-structured interviews with selected informants. The interview data was analyzed according to the areas of agreement and conflict among the groups.[2] From this analysis, the critical points in the relationships were identified and were mapped onto the critical points diagram. This diagram then provided administrators with a basis for the ongoing monitoring of the project.

Model Implementation

Given the constraints of time and funding, the consultant was only able to complete the model development, preliminary implementation and identification of the critical points in the impacted programs. The design of a system for the periodic monitoring of the impact of the visually impaired students on the college was not yet complete. However, the consultant recommended that a formal survey instrument be constructed based on the preliminary data that had been collected.

CRITICAL POINTS DIAGRAM

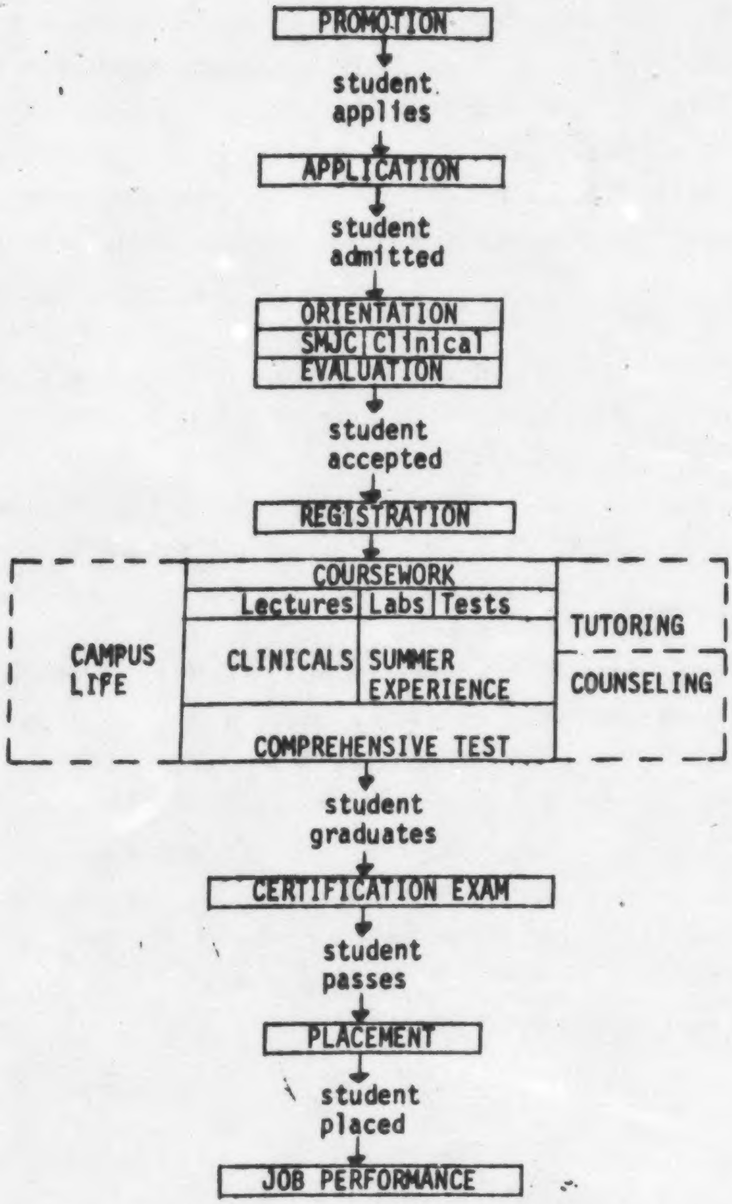
PROMOTION
student applies
APPLICATION
student admitted
ORIENTATION
SMJC
Clinical
EVALUATION
student accepted
REGISTRATION
CAMPUS LIFE
COURSEWORK
Lectures
Labs
Tests
CLINICALS
SUMMER EXPERIENCE
COMPREHENSIVE TEST
TUTORING
COUNSELING
student graduates
CERTIFICATION EXAM
student passes
PLACEMENT
student placed
JOB PERFORMANCE

Figure 1. Critical Points Diagram. (From "Design and Implementation of an Institutional Impact Analysis" by William Stockton, St. Mary's Junior College, 1978).

During the 1978-79 academic year, the impact analysis model was fully implemented by the college's internal evaluator. Using the data about problem areas that had been previously collected, survey questionnaires were designed for visually impaired students, teachers and peer tutors. Each questionnaire included three parts: Part I included a variable number of items on a forced choice, agree-disagree scale; Part II asked respondents open-ended questions about the helpfulness of college support services related to the visually impaired students; and Part III contained two vignettes. Vignettes are descriptions of situations in the college environment that involve the interaction among a number of social identities. The following is an example of a vignette used in the teachers' questionnaire.

> You ask the students in your class to pull their chairs into a circle for discussion. A visually impaired student ends up in the middle of the circle as discussion begins. It is obvious to you that the situation is awkward to everyone, but nobody is saying or doing anything? What would you do?

The consultant had developed and used vignettes as a technique to assess and discuss attitudes during the interviews that were conducted. Vignettes were included in the questionnaires so that the attitudes among the impacted social identities could continue to be explored. To obtain a measure of the differences in expectations among the groups, parallel questionnaire items and vignettes were developed for each questionnaire.

Questionnaires and semi-structured interviews were used to collect information during each quarter of the academic year. Questionnaires were administered to all visually impaired students, their teachers and peer tutors. Teachers and tutors received questionnaires through the college mail system. Some of the partially sighted students in the project were able to read and answer the questionnaires without help but the totally blind students had the questionnaire read to them and typed their answers. Spring quarter, all of the clinicians who had supervised the visually impaired students during the clinical components of their training programs were mailed questionnaires. These questionnaires contained only open ended questions. To assure a good return, the clinical coordinator for each program phoned each clinician prior to the mailing and also signed the cover letter that accompanied each questionnaire.

Implementation Outcomes

Both the evaluation methodology and the Critical points Analysis model that were developed to measure the impact of visually impaired students on the college evolved as this training project unfolded. Following the fall quarter data collection, the questionnaires and interview questions were revised each quarter using the data collected the previous quarter. In order to monitor the problems on which the items had been developed in the original questionnaires, all items were retained from one revision to the next. New items were added each revision. Since the results of the fall quarter data collection showed that some respondents were skipping some of the questionnaire items, the structure of the winter quarter questionnaire was changed to include a comments section opposite each questionnaire item. This change was made to reduce the respondents' reaction to the forced choice scale and allow the respondent more options for response. This change did have an overwhelming effect. Respondents to these questionnaires filled them with subjective comments. Even though respondents chose a response on the forced choice scale, they still included a comment. This pool of subjective information provided insight into the actual impact of the visually impaired students on the college as well as the social identities impacted. Perhaps attempting to quantify the impact of a new student group on a college environment cannot be done if an accurate picture of the environment is to be obtained.

Efforts to determine whether the information callected fall quarter was indeed representative of the reality of problems in the impacted college environment were undertaken in response to the fall quarter data analysis. The vignettes included in the questionnaires were not producing helpful, if any, information. Further investigation revealed that most of the situations depected in the vignettes represented, what the evaluator hypothesized as Level I impact situations. Teachers and tutors had become somewhat used to the presence and involvement of visually impaired students in their environment, and therefore, no longer reacted to descriptions based mostly on initial contact situations. This outcome may demonstrate that vignetts are useful only in the initial interview and questionnaire development stages of implementing the Critical Points Analysis model and methodology.

Conclusions

The Critical Points Analysis model and the corresponding evaluation methodology described in this paper have proven to be valuable techniques in determining the impact of introducing visually impaired students into two of the allied health programs at St. Mary's Junior College. The use of this model would allow other educational institutions to monitor the impact of new student groups introduced into their college environments. The anticipatory nature of the model would allow administrators to identify the critical points of impact prior to the introduction of a new student group. The new student population could also be interviewed to determine their expectations before they enter the system. Given that the model also evolves as the impact of a new student group spreads throughout the College system, the model tailors itself to the institutional context in which it is being implemented.

St. Mary's will graduate three visually impaired occupational and physical therapist assistants at the end of this academic year. However, several of the critical points on the Critical Points Diagram remain to be investigated. The evaluation methodology developed thus far will be continued to determine the impact of visually impaired therapist assistants at the remaining(job performance) and perhaps as yet undiscovered critical points.

Footnotes

[1] For a detailed description of the Operations Impact Model contact the authors.

[2] Interview analysis procedures may be obtained from the authors.

APPENDIX B

CUMULATIVE RECORD

CUMULATIVE RECORDS

Project staff and SMJC faculty have coordinated efforts to establish a cumulative record on each of the visually impaired students. This record, comprised of the student's current vision report, a report of the student's primary modes of learning, a list of student requests for instructional accommodation and results serves as an aid to the faculty in accommodating the special needs of each visually impaired student at SMJC and helps us in our effort to build a body of knowledge around this important topic.

Initially, distributed to the student's teachers at the start of each quarter, instructional situations which required adaptations, their nature and subsequent results are recorded. This information is eventually shared with the student and feedback and student approval are sought. Data is then summarized and summary sheets are included in the distribution cycle each quarter.

As the faculty became more familiar with VI students and more comfortable in questioning them about their visual conditions, the need for the distribution of formal records lessened. The students were also encouraged to discuss the nature of their visual impairements and their needs for accommocations with the instructors. Therefore, we now send a form to the faculty once a year which requests them to list the instructional situations which require adaptations, the nature of adaptations and the results achieved by using these adaptations. Since some of the students resented the personal nature of the initial system, we have depersonalized the new procedures. The instructors associate the information with the severity of visual loss instead of associating it with a particular VI student.

This is an example of a cumulative record for a typical visually impaired student. A copy of the record is given to the student's teachers at the start of each academic quarter after the student approves the contents. During the quarter, the teachers recrod the instructional stiuations which require adaptations, the nature of the adaptations and their effectiveness.

Date: SEPTEMBER, 1978

Student: STEVE

Vision Report:

JUNE 1977: Left Eye: Hand motion
Right Eye: No light perception

This report indicates that Steve can detect movement if it occurs in front of him or to the left side. The right eye can not detect the presence of light.

Study Skills Report: Steve's primary mode of learning is listening. Steve has a tape recorder and has an excellent ability to use it in his study. His typing skills are also quite good. However, Steve's skills in the reading and writing of braille are quite minimal. He should not have problems in class if all instruction written on the blackboard is also spoken in class.

Student Requests:

1. Teachers should verbalize all materials written on blackboard.

2. Teachers should spell difficult terms.

Summary: INSTRUCTIONAL ADAPTATION AND STUDENT VALIDATIONS

STUDENT NAME: STEVE
INSTRUCTOR/
PEER TUTOR: Johnson, D.

COURSE QTR/YR	INSTRUCTOR/ PEER TUTOR	INSTRUCTIONAL SITUATION WHICH REQUIRED ADAPTATION(S)	NATURE OF ADAPTATION(S)	EFFECTIVENESS OF ADAPTATION(S) AS VALIDATED BY STUDENT	
				DATE	
PTA325 Fall'78	JOHNSON	Demonstrations of techniques throughout the course	Used the student as a model during demonstrations.		Very effective
		Testing throughout the course	Project staff given copy of test to tape. Student took test at Testing Center.		Very effective Sometimes it was a hardship to make up test early so that it could be taped

223

APPENDIX I

PROJECT STAFF

PROJECT STAFF, CONSULTANTS AND RELEASED FACULTY

Name	Project Position
James Sevdy, M.S.	Coordinator
Cathy Reimer, C.O.T.A. Faculty Assistant	Project Assistant
Sr. Karen Hophan, C.O.T.A., Faculty Assistant	Project Assistant/Tutoring/Testing
Bob Watson, Electrical Engineer	Consultant
Dave Bocchi, Electrical Engineering Student	Consultant
Michele Gauthier, B.S., Faculty Assistant	Released OTA Faculty
Patsy Anderson, SEA Faculty Assistant	Project Assistant
William Otterness, Orientation and Mobility Expert	Consultant
SMJC OTA and OTA Program Directors and Faculty	OTA and PTA Faculty Release Consultants - Special Evaluation and Adaptations

APPENDIX J

PROJECT TRAINEES

STUDENT TRAINEES *

me	Date of Graduation	Disability	Program	Job Placement
Bonnie Schave	Withdrew	Total blindness	Occupational Therapy Assistant	
Diana Bohnett	Withdrew	Legal blindness	Occupational Therpy Assistant	
Michael Brien	Withdrew	Total blindness	Physical Therapist Assistant	
Roseann Gliniany	May 1979	Legal blindness	Physical Therapist Assistant	Trevilla Nursing Home Robbinsdale, MN
Debra Schuerman	May 1979	Total blindness	Physical Therapist Assistant	Mount Sinai Hospital Minneapolis, MN
Noreen Peterson	May 1979	Total blindness	Occupational Therapy Assistant	University of Minnesota Hospitals - Occupational Therapy Department Minneapolis, MN
Estelle Lincoln	May 1979	Legal blindness	Occupational Therapy Assistant	Didn't seek employment except in limited geographical area.
Stacy Felber	May 1981	Total blindness	Occupational Therapy Assistant	
Kathi Zoern	May 1980	Legal blindness	Occupational Therapy Assistant	Day Activity Center Wisconsin
Darlene Shocky	May 1980	Total blindness	Occupational Therapy Assistant	St. Joseph's Hospital Brainerd, MN
William Hosel	Withdrew	Legal blindness	Occupational Therapy Assistant	
Kirk Woodfill	May 1980	Legal blindness	Physical Therapist Assistant	Villa Marie Nursing Home Minneapolis, MN
Eileen Abbott	May 1980	Total blindness	Physical Therapist Assistant	Accepted into 4-year RPT School SUNY, New York

Ethnic designation of trainees: 26 Caucasian (non-Spanish speaking) and 1 Black American.

STUDENT TRAINEES

Name	Date of Graduation	Disability	Program	Job Placement
14.	Withdrew	Total blindness	Occupational Therapy Assistant	
15.	May 1981	Total blindness	Occupational Therapy Assistant	
16.	May 1981	Legal blindness	Occupational Therapy Assistant	
17.	Withdrew	Total blindness	Physical Therapist Assistant	
18.	May 1982	Legal blindness	Physical Therapist Assistant	
19.	Withdrew	Legal blindness	Physical Therapist Assistant	
20.	Withdrew	Legal blindness	Occupational Therapy Assistant	
21.	May 1982	Total blindness	Physical Therapist Assistant	
22.	May 1982	Legal blindness	Physical Therapist Assistant	
23.	May 1982	Total blindness	Physical Therapist Assistant	
24.	May 1982	Legal blindness	Occupational Therapy Assistant	
25.	May 1983	Total blindness	Occupational Therapy Assistant	
26.	May 1982	Legal blindness	Occupational Therapy Assistant	
27.	May 1982	Legal blindness	Occupational Therapy Assistant	

STUDENT TRAINEES

Name	Date of Graduation	Disability	Program	Job Placement
28. Kathleen Hicswa	Withdrew from PTA program. Accepted into MRT program-Spring, 1981 graduation.	Legal blindness	Medical Records Technician	
29. Alyce Wilson	Withdrew	Total blindness	Special Education Associate	
30. Tom Meunier	Withdrew	Total blindness	Physical Therapist Assistant	
31. Sue Vanyo	Withdrew	Total blindness	Occupational Therapy Assistant	

In addition to the trainees listed above, one legally blind student, who did not participate in the Project, was accepted into the College's Special Education Associate Program and will graduate in Spring, 1981.

OCT 9 1981

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